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This Manu-Spec® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including *MasterFormat™*, *SectionFormat™* and *PageFormat™*. A Manu-Spec is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets [ ]; delete optional text in final copy of specification. Specifier Notes precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate product model numbers, styles and types are used in Specifier Notes and in the specification text Article titled "Acceptable Material." Metric conversion, where used, is soft metric conversion.

This Manu-Spec specifies a decorative architectural concrete finishing system through texture finish, colour and installation.

## **SECTION 03 35 33**

### **STAMPED CONCRETE FINISHING**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- .1 Section Includes: This Section specifies decorative architectural concrete finishing through texture, colour and installation.

**Specifier Note: Revise Paragraph below to suit project requirements. Add section numbers and titles per CSI MasterFormat and specifiers practice.**

- .2 Related Requirements:

**Specifier Note: Include in this Paragraph only those sections and documents that directly affect the work of this section. If a reader of this section could reasonably expect to find a product or component specified in this section, but it is actually specified elsewhere, the related section number(s) should be listed below. Do not include Division 00 documents or Division 01 sections, as it is assumed all technical sections are related to all project Division 00 and Division 01 sections to some degree. Refer to other documents with caution, as referencing them may cause them to be considered part of the Contract.**

- .1 Section [03 30 00 - Cast-in-Place Concrete].  
 .2 Section [\_\_\_\_].

##### **1.2 REFERENCES**

**Specifier Note: Paragraph below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain References Paragraph when specifying products and installation by an industry reference standard. List retained standard(s) referenced in this section alphabetically. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced and update as applicable. Contract Conditions Section 01 42 00 - References may be used to establish the edition date of standards. This Paragraph does not require compliance with standard(s). It is a listing of all references used in this section. Only include here standards that are referenced in the body of the specification in PARTS 1, 2 and/or 3. Do not include references to building codes at any level.**

**A. Reference Standards:**

- .1 American Concrete Institute (ACI).
  - .1 ACI 301 Specifications for Structural Steel.
  - .2 ACI 306 Guide to Cold Weather Concreting.
- .2 ASTM International (ASTM).
  - .1 ASTM A185/A185M Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.
  - .2 ASTM A615/A615M Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement.
  - .3 ASTM C33/C33M Standard Specification for Concrete Aggregates.
  - .4 ASTM C150/C150M Standard Specification for Portland Cement.
  - .5 ASTM C260 Standard Specification for Air-Entraining Admixtures for Concrete.
  - .6 ASTM C494/C494 Standard Specification for Chemical Admixtures for Concrete.
- .3 CSA International (CSA).
  - .1 CSA A23.1/ A23.2 Concrete materials and methods of concrete construction/test methods and standard practices for concrete, Includes Update No. 1 (2015).
- .4 US Green Building Council (USGBC).
  - .1 LEED NC Version 2.2 LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations.

**Specifier Note:** Article below includes submittal of relevant data to be furnished by contractor before, during or after construction. Coordinate this article with Consultant's and contractor's duties and responsibilities in Contract Conditions and Section 01 33 00 - Submittal Procedures.

**1.3 ADMINISTRATIVE REQUIREMENTS**

- .1 Coordination: Coordinate work of this Section with Section [03 30 00 - Cast-in-Place Concrete] to ensure that stamped concrete subcontractor's concrete mix design and installation practices are incorporated for the concrete which will be stamped.
- .2 Preinstallation Meeting: Convene preinstallation meeting after Award of Contract and one week prior to commencing work of this Section to verify project requirements, substrate conditions and coordination with other building subtrades and to review manufacturer's recommendations.
  - .1 Comply with Section [01 31 19 Project Meetings] and co-ordinate with other similar preinstallation meetings.
  - .2 Notify attendees 2 weeks prior to meeting and ensure meeting attendees include as minimum:
    - .1 Owner.
    - .2 Consultant.
    - .3 Stamped concrete finishing subcontractor.
    - .4 Manufacturer's technical representative.
  - .3 Ensure meeting agenda includes review of methods and procedures related to stamped concrete finishing installation including co-ordination with related work.
  - .4 Record meeting proceedings including corrective measures and other actions required to ensure successful completion of work and distribute to each attendee within 1 week of meeting.

**1.4 SUBMITTALS**

- .1 Product Data: Manufacturer's standard specifications and descriptive literature, including:
  - .1 Product characteristics.
  - .2 Performance criteria.
  - .3 Safety Data Sheets (SDS).
    - .1 Ensure rate of VOC is included.

**Specifier Note:** Specify submittals intended to document manufacturer storage, installation and other instructions.

- .2 Shop Drawings: Submit drawings showing layout and pattern.
- .3 Manufacturer's instructions, including:
  - .1 Delivery, storage and handling recommendations.
  - .2 Preparation and application recommendations.
- .4 Samples: Submit 600 x 600 mm sample showing pattern, texture and colour as selected by Consultant from manufacturer's standard range.
  - .1 Submit sample on 13 mm minimum thick plywood.
  - .2 Ensure concrete on plywood is 13 mm minimum thick to adequately show pattern and texture.
- .5 Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
- .6 Certificates: Product certificates signed by manufacturer certifying materials comply with specified performance characteristics and criteria and physical requirements.
- .7 Manufacturer's Field Reports: Submit manufacturer's field reports within [3] days of each manufacturer representative's site visit and inspection.

**Specifier Note: Coordinate Article below with Contract Conditions and with Section 01 78 36 - Warranties.**

- .8 Subcontractor's Qualifications: Submit verification of license permitting subcontractor to do work of this Section.
- .9 Warranty: Fully executed, issued in [Owner's] name and registered with manufacturer, including:
  - .1 Manufacturer's [1 year] warranty from date of substantial completion, covering defects in materials.

**Specifier Note: Retain the following only if specifying for a LEED project. Specify only the technical submittal requirements necessary to achieve the credits desired for this Project.**

- .10 Sustainable Design (LEED) Submittals:
  - .1 LEED Submittals: In accordance with Section [01 35 21 – LEED Requirements].
  - .2 Submit verification for items when appropriate as follows:
    - .1 MR 5 - Regional Materials.

## 1.5 QUALITY ASSURANCE

- .1 Subcontractor's Qualifications: Licensed by Patterned Concrete Industries, Ltd.

## 1.6 DELIVERY, STORAGE & HANDLING

- .1 Deliver materials in accordance with manufacturer's instructions.
  - .1 Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact and product name and manufacturer clearly visible, and sizes to suit project.
- .2 Store materials protected from exposure to harmful environmental conditions, clean, dry, frost-free and at recommended temperature and humidity levels.
  - .1 Ensure materials are stored at temperatures greater than 40 degrees F.

## 1.7 WARRANTY

- .1 Project Warranty: Refer to Contract Conditions for project warranty provisions.
- .2 Manufacturer's warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official.
  - .1 Manufacturer's warranty is in addition to and not intended to limit other rights Owner may have under Contract Conditions.

**PART 2 PRODUCTS**

**Specifier Note:** Retain article below for proprietary method of specification. Add product attributes for performance characteristics, material standards and descriptions in other articles as applicable. Use of such phrases as or equal, approved equal or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining or equal products.

**2.1 MANUFACTURER**

- .1 Patterned Concrete Industries, Ltd.
- .2 Contact Information: 249 Supertest Road, Toronto, Ontario, Canada, M3J 2M4; Phone: (800) 252-4619; Email: specs@patternedconcrete.com; Website: www.patternedconcrete.com.

**Specifier Note:** Edit the following Article to suit project requirements. Coordinate the Article with the Section that specifies the cast-in-place concrete, typically Section 03 30 00 - Cast-in-Place Concrete. Include only those Paragraphs which are not addressed in the cast-in-place concrete Section. Delete the Article in its entirety if concrete performance characteristics are adequately addressed in the cast-in-place concrete Section.

**2.2 PERFORMANCE REQUIREMENTS**

- .1 Concrete:
  - .1 Steel wire reinforcing: To ASTM A185.
  - .2 Steel bar reinforcing: To ASTM A615.
  - .3 Concrete aggregates: To ASTM C33.
  - .4 Portland cement: To ASTM C150.
  - .5 Air-entraining admixtures: To ASTM C260.
  - .6 Chemical admixtures: To ASTM C494.

**2.3 DESCRIPTION**

- .1 Decorative architectural concrete finishing in selected pattern, texture and colour.

**Specifier Note:** Retain and edit the following Paragraph to meet project requirements. The patterns shown are for example only. Many other patterns as well as custom patterns are available. Contact Patterned Concrete Industries, Ltd. directly for further information on available patterns or download the company brochure at [www.patternedconcrete.com](http://www.patternedconcrete.com).

- .1 Pattern Series: [Ardesia] [Origins] [Quarry] [Custom] [as indicated] [as selected by Consultant from Patterned Concrete Industries' standard range] [as shown on submitted shop drawings].

**Specifier Note:** Retain and edit the following Paragraph to meet the project requirements. Standard and custom colours are available. Contact Patterned Concrete Industries, Ltd. directly for further information on available colours.

- .2 Colour: [ ] [Integral] [as indicated] [as selected by Consultant from Patterned Concrete Industries' range of pattern series] [as shown on drawings].
- .3 Acceptable Material: Decorative Architectural Concrete Finishing by Patterned Concrete Industries, Ltd.

**2.4 MATERIALS**

- .1 Concrete: In accordance with Section [03 30 00 - Cast-in-Place Concrete].

**2.5 ACCESSORIES**

- .1 Concrete Hardener: Proprietary concrete hardener specifically for use with Patterned Concrete Industries' stamped concrete finishes.
  - .1 Acceptable material: Concrete Hardener by Patterned Concrete Industries.

- .2 Sealer: Proprietary blend concrete sealer for finish selected by Consultant from manufacturer's standard range.
  - .1 Acceptable material: Concrete Sealer by Patterned Concrete Industries.
- .3 Release Agent: Proprietary blend release agent selected by Consultant from manufacturer's standard range.
  - .1 Acceptable material: Release Agent by Patterned Concrete Industries.

**PART 3 EXECUTION****3.1 STAMPED CONCRETE SUBCONTRACTOR**

- .1 Use only subcontractor, licensed, tooled and trained by Patterned Concrete Industries, Ltd.

**3.2 EXAMINATION**

- .1 Verification of Conditions: Verify that conditions of substrate previously installed under other Sections or Contracts are in accordance with manufacturer's recommendations.
  - .1 Inform Consultant of unacceptable conditions immediately upon discovery.
  - .2 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Consultant.
  - .3 Starting application of stamped concrete finishing implies substrate conditions are acceptable for Work of this Section.

**3.3 PREPARATION**

- .1 Ensure cast-in-place concrete is wood floated to uniform surface before starting stamped concrete finishing work.
- .2 Work hardener into concrete slab finish before starting stamped concrete finishing work.

**3.4 APPLICATION**

**Specifier Note: Retain and edit the following Paragraph to suit project requirements. Choose ACI 301 for standard structural concrete and choose ACI 306 for cold weather concreting.**

- .1 Do stamped concrete finishing to [ACI 301] [ACI 306] [CSA A23.1/A23.2] and in accordance with Patterned Concrete Industries' recommendations.
  - .1 Imprint concrete by rigid stamping with layout, pattern colour and texture [as indicated] [as shown on shop drawings].
  - .2 Seal finished work in accordance with Patterned Concrete Industries' recommendations.

**3.5 FIELD QUALITY CONTROL**

- .1 Field Inspection: Coordinate field inspection in accordance with Section [01 45 00 Quality Control].

**Specifier Note: Specify requirements if manufacturers are to provide field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Manufacturer field reports are included under PART 1, Submittals.**

- .2 Manufacturer's Services:

**Specifier Note: Use the following Paragraphs only when manufacturer's field services are provided and are required to verify the quality of the installed components. Establish the number and duration of periodic site visits required by manufacturer and specify below. Contact Patterned Concrete Industries, Ltd. to determine any costs associated with technical representatives providing manufacturer's field services. Delete if field services are not required.**

- .1 Coordinate manufacturer's services with Section [01 45 00 - Quality Control].

**Specifier Note: Delete the following paragraph if no costs are associated with manufacturer's services.**

- .2 Arrange for payment for manufacturer's services.

- .3 Have manufacturer review work involved in handling, application, protection and cleaning of stamped concrete finishing, and submit written reports in acceptable format to verify compliance of Work with Contract conditions.
- .4 Manufacturer's Field Services: Provide manufacturer's field services consisting of product use recommendations and periodic site visits for product installation review in accordance with manufacturer's instructions.
- .5 Report any inconsistencies from manufacturer's recommendations immediately to Consultant.

**Specifier Note: Edit the following Paragraph to meet project requirements. Coordinate site visits with manufacturer or delete the Paragraph and all of its subparagraphs if site visits are not required.**

- .6 Schedule site visits to review work at stages listed:
  - .1 After delivery and storage of stamped concrete finishing, and when preparatory work on which Work of this Section depends is complete, but before application begins.
  - .2 During progress of work.
  - .3 Upon completion of work, after cleaning is carried out.
  - .4 Obtain reports within three days of review and submit immediately to Consultant.

### 3.6 CLEANING

- .1 Perform daily progress cleaning.
  - .1 Leave work area clean at end of each day.
- .2 Upon completion, remove surplus materials, rubbish, tools and equipment.
- .3 Collect recyclable waste and dispose of in accordance with manufacturer's recommendations and at appropriate recycling facilities.

**Specifier Note: Specify protection methods completed after installation, but prior to acceptance by the owner. Include only statements unique to this Section. Coordinate the following Article with Section 01 76 00 - Protecting Installed Construction.**

### 3.7 PROTECTION

- .1 Protect applied stamped concrete finishing from damage during construction.
  - .1 Place temporary wood planking over finished stamped concrete finishing work [at traffic areas] [as directed by [Consultant]].
- .2 Repair or replace adjacent materials damaged by application of stamped concrete finishing.

## END OF SECTION





## 1. Product Name

- Decorative Architectural Concrete Finishing

## 2. Manufacturer

Patterned Concrete Industries, Ltd.

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Suite 1010

Tulsa, Oklahoma 74119

Phone: 800-252-4619 USA

877-728-8266 Canada

Email: [specs@patternedconcrete.com](mailto:specs@patternedconcrete.com)

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## 3. Product Description

Patterned Concrete® specializes in decorative architectural concrete finishing. Since 1972, Patterned Concrete's proprietary start-to-finish system, installed by highly trained professionals, has added architectural interest to concrete surfaces through texture, finish and color techniques.

### Basic Use

Patterned Concrete offers a complete system for decorative architectural concrete finishing. The company's registered and licensed professionals provide design consultation, stamping, coloring and sealing to strict control standards — completing all aspects of the concrete finish. Use of Patterned Concrete's rigid stamping tools assures design accuracy and allows designs to be precisely reproduced from project to project.

Patterned Concrete paving systems are suited for commercial and residential interiors and exteriors in new construction or renovation.

Applications include:

- Vehicular pavements
- Pedestrian pavements
- Parks
- Walkways
- Driveways
- Pathways
- Pool decks
- Patios
- Basement floors



### Series

- Ardesia
- Origins
- Quarry
- Custom patterns are available. Contact a Patterned Concrete representative for details

### Composition and Materials

All designs are concrete based and materials are tailored to application requirements. Portland cement is used in all mixes; quality and additives may vary. Materials include Patterned Concrete's proprietary brand of color hardeners, integral pigment, release agents, dyes, stains and patterns.

### Colors, Sizes

Standard and custom colors and sizes are available. Visit [www.patternedconcrete.com](http://www.patternedconcrete.com) or contact a Patterned Concrete representative directly for current color charts and sizes.

### Benefits

- Combines the strength and durability of concrete with the aesthetic appeal of pavers, brick or stone
- Professionally installed by licensed, highly trained and certified concrete professionals for ensured quality
- Poured, imprinted and colored to strict, documented technical quality control standards
- Provides distinctive design which can be precisely recreated for future maintenance and repair
- Sized panels relieve surface stress and cracking
- Available in a wide range of colors and patterns
- Sealed for protection from elements

### Limitations

Surface cracks and existing conditions may limit installation and finish options on existing concrete topping.

## Options

- Extended warranty
- Custom configurations are available. Contact a Patterned Concrete representative for information

## 4. Technical Data

### Applicable Standards

#### American Concrete Institute (ACI)

- **ACI 301** Specifications for Structural Concrete
- **ACI 306** Specification for Cold Weather Concreting

#### ASTM International

- **ASTM A185** Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
- **ASTM A615** Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- **ASTM C33** Standard Specification for Concrete Aggregates
- **ASTM C150** Standard Specification for Portland Cement
- **ASTM C260** Standard Specification for Air-Entraining Admixtures for Concrete
- **ASTM C494** Standard Specification for Chemical Admixtures for Concrete

#### CSA International (CSA)

- **CSA A23.1** Concrete Materials and Methods of Concrete Construction/Test Methods and Standard Practices for Concrete

## 5. Installation

### Preparatory Work

Prior to the installation commencing, a site design meeting shall be performed to discuss and ensure that final product data/shop drawings meet the designer/owner requirements. An authorized Patterned Concrete licensed contractor must be present to discuss final product usage, such as concrete mix design, color pigment choice and imprint tool layout, as well as the pour schedule.

Due to the imprinting procedure and proprietary manufacturing process, product usage, concrete mix design and installation may supersede standard construction design practices, so that the decorative or imprinted concrete work can be carried out, completed and warrantied.

### Methods

Patterned Concrete follows established subgrade preparation and structural design. Work is performed by professionally trained and licensed installers using proprietary rigid stamping tools to create the specified pattern and design. Installation is performed in accordance with ACI 301 and CSA A23.1.

### Reinforcement

Reinforcement is by Patterned Concrete's licensed and trained professionals per engineered documentation and in accordance with ASTM A185, ASTM A615 and project requirements.



### Concrete

Concrete is mixed, placed and screeded by Patterned Concrete professionals in accordance with ASTM C150 for Type I, Type II or Type V, as required by project conditions. Fly ash or slag may be substituted for as much as 30 percent of Portland cement and in order to meet or attain LEED points.

- Aggregate: Non-reactive stone, known to product acceptable concrete
- Admixtures: Water in accordance with ASTM C494; air entraining admixture in accordance with ASTM C260 and ASTM C494
- Concrete mix: Placed and screeded to the proper grade and wood floated to a uniform surface in normal manner
- Bonding agents: To ACI 306 or as specified by structural engineer
- Imprint pattern: By use of rigid molded stamping tools ensuring consistent depth and texture per manufacturer's application guidelines
- Release agent: Patterned Concrete liquid or powdered release agent, evenly applied
- Sealer: Patterned Concrete water or solvent based





### Quality Assurance

Each project is backed with a warranty and recorded for future reference in a central data base so color, pattern and/or finish can be reproduced for future add on or maintenance requirement.

### Building Codes

Ensure installation complies with the requirements of all applicable local, state and federal code jurisdictions.

## 6. Availability and Cost

Patterned Concrete is available in the United States and Canada directly from the manufacturer and via a network of approved, licensed representatives.

Contact a Patterned Concrete representative or visit [www.patternedconcrete.com](http://www.patternedconcrete.com) for pricing and availability in a specific area.

## 7. Warranty

Warranty varies by project and meets industry standards. One, two or five year warranty is available.

## 8. Maintenance

Patterned Concrete Industries recommends stamped concrete be protected and properly cleaned to maintain appearance and longevity.

Use approved deicers only when needed. Remove snow from concrete surface as quickly as possible to reduce freeze thaw cycles and reduce the need for deicers. Do not use deicers that contain magnesium chloride, nitrates, urea or sugar beets.

For shiny acrylic finishes, avoid use of calcium products, which increase concrete slipperiness.

Refer to the manufacturer's Maintenance Instruction and Orientation Guide for details.

## 9. Technical Services

Patterned Concrete Industries has experienced teams of concrete professionals who design, price and install offered systems. Onsite installation is comprised of consultations for design and construction, site inspections and submittal process to complete specific project file. The specific file is then saved to the Patterned Concrete Industries database for future maintenance and repair reference.

Technical assistance, including detailed product information, product literature, test results and assistance in preparing project specifications, is available from Patterned Concrete Industries.

## 10. Filing Systems

- CMD
- Manu-Spec (US)
- Manu-Spec (Canada)
- Additional product information is available from the manufacturer upon request ↪