

SECTION 09 97 23

CONCRETE AND MASONRY COLOR TREATMENT

Display hidden notes to specifier. (Don't know how? [Click Here](https://www.nawkaw.com/nawkaw-specification-instructions/))

\*\* NOTE TO SPECIFIER \*\* Nawkaw Corporation; and NawKote-PC self-cleaning system.

This section is based on the products of Nawkaw Corporation, which is located at:

380 Commerce Blvd

Athens, GA 30606

Toll Free Tel: 866-462-9529

Tel: 706-355-3217

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Web: <http://www.nawkaw.com/>

In 1988, Nawkaw was founded in Toronto, Canada, by CEO, Russell Gray. Ever since, Nawkaw has pioneered the concrete and masonry industry by manufacturing innovative, high-quality, and environmentally-friendly products that contain little to zero VOC. Nawkaw offers both commercial and residential services and strives to invent techniques that result in outstanding finishes on concrete and masonry. By applying color and adding texture to your preferred building material, we can create any look you desire.

This specification includes Nawkaw's NawKote-PC self-cleaning system.

Since 1987, Nawkaw has had a track record of excellent performance, product testing, and innovation—setting the standard of excellence for the coatings industry. Nawkaw installation teams have won multiple awards. Nawkaw is a distributor and applicator of innovative, TiO2 based self-cleaning coating imported from a Japanese manufacturer.

**PART 1 GENERAL**

* 1. SECTION INCLUDES

A. Self-Cleaning Coating System.

1.2 RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 03 11 16.13 - Concrete Form Liners.

C. Section 03 35 23 - Exposed Aggregate Concrete Finishing.

D. Section 03 41 16 - Precast Concrete Slabs.

E. Section 03 45 13 - Faced Architectural Precast Concrete.

F. Section 03 47 13 - Tilt-Up Concrete.

G. Section 03 49 00 - Glass-Fiber-Reinforced Concrete.

H. Section 03 50 00 - Cast Decks and Underlayment.

I. Section 04 40 00 - Stone Assemblies.

J . Section 09 22 00 - Stucco.

K. Section 09 24 13 - Adobe Finish.

1.3 REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

A. ASTM C 744 - Standard Specification for Prefaced Concrete and Calcium Silicate Masonry Units.

B. SCAQMDR 1168 - South Coast Air Quality Management District's (SCAQMD) Volatile Organic Compounds (VOC) Rule 1168.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: The data sheets on each product to be used, including:

1. Product characteristics.

2. Preparation instructions and recommendations.

3. Storage and handling requirements and recommendations.

4. Installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if not required for the project.

C. Preliminary Samples: To be provided as required for the specific project.

D. Verification Samples: To be provided on the specific materials to be treated when they are available in plant or on site.

E. Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Installer licensed by Nawkaw to apply the photocatalyst products specified.

B. Environmental Regulations: The surface primer and the TiO2 photocatalyst solution to be applied are nonhazardous, harmless and in compliance with federal, provincial and local environmental Volatile Organic Compounds (VOC) regulations.

\*\* NOTE TO SPECIFIER \*\* Include a control panel if the project size and/or quality warrant taking such a precaution.

C. Control panel: The submission of a control panel will become the reference standard of quality.

1. Application of the photocatalyst coating to the control panel is to be as per the manufacturer's instructions by licensed applicators. After the sample treatment has cured in accordance with manufacturer’s recommendations, verify the substrate is coated with sufficient active photocatalyst to produce the desired appearance and performance. The sheeting of water instead of droplets or beading on the surface confirms the superhydrophilic property. Photocatalyst oxidation activity is assessed by the decomposition and change of color of organic dyes and methylene blue. Uncoated reference sample is compared with coated sample for comparison and verification.

2. Do not proceed with remaining work until finish is approved by an architect.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and handle products in accordance with requirements of manufacturer.

C. Store materials inside if possible, away from open flame. Store in a secure area to avoid tampering and contamination. Water-based materials must be kept from freezing.

1.7 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

A. At project closeout, provide to owner or owner’s representative an executed copy of the standard limited warranty against manufacturing and workmanship defects, outlining its terms, conditions, and exclusions from coverage.

1. Duration: 3 years.

**PART 2 PRODUCTS**

2.1 DISTRIBUTORS

A. Acceptable Distributor: Nawkaw Corporation, which is located at: 380 Commerce Blvd; Athens, GA 30606; Toll Free Tel: 866-462-9529; Tel: 706-355-3217; Fax: 706-355-9199; Email: info@nawkaw.com; Web: <http://www.nawkaw.com/>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

B. Substitutions: Not permitted.

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 SELF-CLEANING COATING

\*\* NOTE TO SPECIFIER \*\* NawKote-PC is a coating system designed to give self-cleaning properties to exterior surfaces. It uses a unique formulation of high quality, photocatalytically active TiO2 nanoparticles to achieve a long-lasting protective barrier. Using only sunlight and water, it shields surfaces from the harmful effects of environmental pollutants, while removing these contaminants from the air.

A. NawKote-PC

1. General: NawKote-PC is a two-component self-cleaning, photocatalytically active coating system that does not change appearance of treated surfaces. NawKote-PC prevents concrete carbonation, contains zero VOCs and is nonhazardous.

2. Properties:

• Accelerated carbonation neutralization coefficient: 0mm/t2

(JIS A1152)

• Decomposition of NOX: 0.7392 mmol/m2 (JIS R1701-1:2004; 8h)

• Permanent graffiti barrier APAS1441: pass

• VOC: 0 g/L (SCAQMDR 1168)

• Water permeability: 0.2 mL (JIS A6909)

• UV resistant–accelerated weathering: pass

**PART 3 EXECUTION**

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

\*\* NOTE TO SPECIFIER \*\* Select one or both of the following two paragraphs as applicable. Delete if not applicable.

B. Verify that new masonry and concrete have cured at least 21 days prior to starting work using NawKote-PC system.

C. Verify that surfaces to receive work have a neutral pH, are clean, dry and free of efflorescence.

D. If substrate preparation is the responsibility of another installer, notify architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Clean surfaces thoroughly prior to installation. Allow surfaces to dry completely before applying coating.

C. Verify that walls, concrete, stucco and block that may have been treated with any form of chemical/acid wash are neutralized.

D. Treat alkali or efflorescence with proper neutralizing compounds as recommended by masonry supplier before stain application.

\*\* NOTE TO SPECIFIER \*\* Note that a neutral pH is required to maintain the Nawkaw's Warranty.

E. Before application, verify that the masonry walls have a neutral pH.

F. Before application, verify that surface to be treated is clean, dry and contains no frozen water.

G. Mix products as recommended immediately prior to application.

3.3 INSTALLATION:

The photocatalyst film will be applied to a reference quality sample to be checked for photocatalytic efficacy. This sample will be kept confirming test results of changing the color of applied inks and dyes via oxidation when exposed to daylight.

A. Install in accordance with manufacturer's instructions.

B. Apply photocatalyst coating using airless spray pump or HVLP.

C. Do not proceed with work when ambient temperatures are less than 41 degrees F (5 degrees C) or greater than 104 degrees F (40 degrees C).

D. Allow manufacturer's specified drying time for each coat before applying next coat.

3.4 FIELD QUALITY CONTROL

A. Verify appearance. Applied correctly to the surface photocatalyst system will not change the natural appearance of the surface.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Protect prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels as required.

C. Protect shrubs, metal, wood trim, glass, asphalt and other building hardware during application from overspray.

D. Do not permit mist (if spraying) or liquid to drift onto surrounding properties or parking lots.

E. Touch-up, repair or replace damaged products before substantial completion.

3.6. CLEAN UP

A. At completion of application, all excess materials, debris and waste must be removed from the jobsite.

B. Clean up application equipment with clean water.

**PART 4 MAINTENANCE**

1. In the areas exposed to human traffic, surfaces may suffer impact and abrasion. Such impact and abrasion may damage the photocatalyst coating and the surface will require reapplication.
2. The photocatalyst coating may at infrequent intervals require cleaning.

Cleaning will be required if the photocatalyst surface has been excessively soiled and the light energy cannot reach the photocatalyst coated surface. A soft cloth or brush and a neutral detergent and water should be used for cleaning if necessary. Surface should be wiped clean and rinsed clear with water.

1. High pressure washing is not recommended nor required.
2. A photocatalyst coating will gradually remove graffiti strike by self-cleaning over several months. If immediate removal is required recommended method for graffiti management is as follows:

The photocatalyst coated surface that receives a graffiti strike should be managed by removing the graffiti tag via solvent wipe method using a non-abrasive clean dry cloth and minimum pressure. Any traces of the graffiti that are left behind will be self-cleaned by the decomposition and superhydrophilic properties of the coating.

END OF SECTION