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## **Product Guide Specification**

**Paragraph Specification:** Please use the below specification language for projects requiring specifications directly on drawings.

 Concrete Finishing Aid: Spray or trowel-applied STAGE 1 concrete finishing aid to control rapid moisture loss and aid in the finishing of concrete in hot, windy, or lowhumidity conditions. Non-film forming, colloidal silica-based admixture for extending working time of fresh concrete up to 100%, reduces concrete moisture vapor emission rate (MVER) and instances of efflorescence and crazing.

Apply material in accordance with manufacturers' written requirements using the timing and application rates detailed in manufacturers' application instructions. The typical application rate is 250 – 750 sf/gal per coat; however, the application rate will vary depending on the timing of the application during the placement and finishing process, weather conditions, concrete mix design and other site-specific conditions.

# SECTION 03 35 00 CONCRETE FINISHING AID

### PART 1 GENERAL

- 1.1 SECTION INCLUDES
  - A. Non-film forming, colloidal silica-based evaporation reducer and concrete finishing aid to control rapid moisture loss and aid in the finishing of concrete in hot, windy, or low humidity conditions.
- 1.2 SUBMITTALS
  - A. Submittals for Review
    - 1. Product Data: Manufacturer's technical data

- 2. VOC Compliance Certification: Evidence of compliance with federal and state VOC requirements
- B. Sustainable Design Submittals
  - 1. Low-emitting certificates for specified products

# 1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications
  - 1. Minimum of five (5) years' documented experience producing colloidal silica concrete materials.
  - 2. Mix and deliver concrete ready-mixed in accordance with ASTM C94.
- B. Installer's Qualifications
  - 1. Firm specializing in work of this Section, with minimum 2 years' experience.

# 1.4 PROJECT CONDITIONS

- A. Apply when temperatures are a minimum of 45° F (7° C) and a maximum of 110° F (43° C) (air and concrete) prior to, during, and after application.
- B. Do not allow material to freeze prior to application.

# PART 2 PRODUCTS

- 2.1 MANUFACTURERS
  - A. Acceptable Manufacturers
    - 1. STAGE 1 by Nox-Crete
  - B. Substitutions
    - 1. [Under provisions of Division 01.] [Not permitted.] [No Known Equal]
- 2.2 MATERIALS
  - A. STAGE 1 is applied during the floating and troweling process and reacts with calcium hydroxide to form calcium silicate hydrate gels, filling surface pores and capillaries. This reduces moisture loss, increases concrete fluidity, and extends workability by up to 45 minutes. It significantly enhances workability in challenging conditions such as wind, sun, high temperatures, or low humidity.

Additional additives reduce surface bleed water evaporation and lubricate the concrete surface, making it easier to finish.

- 1. Specified Product: Stage 1 Concrete Finishing Aid by Nox-Crete
  - a. Material Type: Non-film forming, colloidal silica-based evaporation reducer and concrete finishing aid.
  - b. Compliance: ACI 301, and ACI 302.1R.
  - c. VOC Content: Maximum 5 g / L per liter per EPA Method 24
  - d. pH Level: Maximum of 11 pH
  - e. Color: White
  - f. Odor: None

## 2.3 EQUIPMENT

- A. For smaller areas, apply using a low-pressure hand pump, tank-type sprayer equipped with 0.5 or 1.0 GPM spray nozzles.
- B. For larger floors, STAGE 1 can be applied during floating and finishing with power trowels equipped with on-board spray systems and 0.5 or 1.0 GPM spray nozzles.

# PART 3 EXECUTION

### 3.1 PREPARATION

A. STAGE 1 MUST BE THOROUGHLY MIXED PRIOR TO EACH USE. When using 55-gallon (208 L) drums, best results are obtained if the product is mixed using Nox-Crete's DRUM AGITATOR. STAGE 1 is ready-to-use and requires no dilution.

### 3.2 INSTALLATION

- A. STAGE 1 is designed to be floated or troweled into the concrete immediately after application. Do not allow STAGE 1 to dry, puddle, or pond on the surface.
- B. Best results are obtained if STAGE 1 is applied in multiple coats and each coat is thoroughly worked into the concrete surface before additional coats are applied.
- C. Typical application rate for STAGE 1 is 250 500 sf / gal (6 12 sm / L) per coat.
- D. Do exceed 200 sf / gal (4.9 sm / L) per coat in any single application.
- E. For maximum performance, apply first application of STAGE 1 just prior to first pass with bull float or during initial floating with power trowel.

# 3.3 FIELD QUALITY CONTROL

- A. STAGE 1 does not form a membrane and is not for use in place of a membraneforming curing compound.
- B. Not for use as a concrete sealer or stain protectant.
- C. Do not apply to concrete if ambient air or concrete temperature during concrete placement is less than 45° F.

END OF SECTION