SECTION [03 30 00]
[Cast-In-Place Concrete]

**Specifier Note**: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-part format. The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project and local building codes. Coordinate this section with other specification sections and the drawings. Delete all "Specifier Notes" when editing this section.

**Specifier Note**: This section covers StarSeal EF Cure and Seal series. StarSeal EF UV [Gloss] [High Gloss] [Super Gloss] [Flat] [Stain] are acrylic water based, membrane forming curing, sealing, hardening and dust proofing compounds which leave a clear hard protective non yellowing coating and are excellent cure materials for long term concrete performance. The product is ideal for both interior and exterior applications on new and existing concrete floors, stucco or brick walls, architectural sections, and vertical poured walls.

StarSeal EF Cure and Seal series of products provide protection from the damaging affects of water penetration, staining and ultra violet light. They will enhance the color and impart an attractive shine to colored and natural concrete surfaces.

All StarSeal EF cure and sealer feature Vexcon's breathable technology which allows moisture vapor to pass through rather than becoming trapped, preventing whitening, peeling and flaking.

**Specifier Note**: **StarSeal EF** products are high performance building materials that are dedicated to reducing their environmental foot print by improving the environmental performance of buildings, the air quality of its inhabitant's and reducing the effects of volatile organic compounds (VOC's) on the environment.

**Specifier Note**: This guide specification is provided as a start point for the design professional. Any modifications to the specification are the responsibility of the design professional. Contact Vexcon Chemicals with any questions regarding this product.

**Specifier Note:** Before editing this section, consult with Vexcon to obtain complete product information on the cure and seal required for the project.

## PART 1 – GENERAL

### 1.1 SUMMARY

A. This section specifies StarSeal EF curing and sealing materials for new construction and major renovations

**Specifier Note**: Edit the list of related sections as required for the project. List other sections dealing with the work directly related to this section.

## 1.2 RELATED SECTIONS

A. 03 35 00 - Concrete Finishing
03 39 00 – Concrete Curing
03 39 23.13- Chemical Compound Membrane Concrete Curing

## 1.3 REFERENCES

A. American Society for Testing Materials – ASTM

1. ASTM C 309 Standard Specification for Membrane Forming Curing Compounds

2. ASTM C 1315 Standard Specification for Liquid Membrane Forming Compounds having Special Properties for Curing and Sealing Concrete.

3. ASTM D 2047 Standard Test Method for Static Coefficient of Friction of Coated Flooring Surface as Measured by the James Machine.

4. ASTM D 2369 Standard Test Method for Volatile Content of Coatings

B. American Concrete Institute – ACI

1. ACI 308 Standard Practices for Curing Concrete

2. ACI 302.1 Guide for Concrete Floor and Slab Construction

C. United State Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED)

1. New Construction and Major Renovations 2.2v.

D. United States Environmental Protection Agency (EPA)

2. Method 24 - Determination of Volatile Matter Content of Surface Coatings

E. United States Department of Agriculture

## 1.4 SUBMITTALS

A. Comply with section 01 33 00 – Submittal Procedures

B. Comply with section 01 31 00 – Project Management and Coordination/LEED Submittals

1. Obtain written certification from manufacturer on manufacturer's letterhead for all field applied sealants and coatings indicating compliance with LEED NC 2.2 EQ 4.1/4.2 Low Emitting Materials

a. The Volatile Organic Compound (VOC) content in grams/liter or lbs./gallon. per EPA method 24, compliance with South Coast Air Quality District (SCAQD) rule # 1113 dated June 2008, the environment label and the

declaration requirements of ISO 14020 and ACT 15 of the Federal Trade Commission guide on use of environmental marketing claim

2. Provide documentation from manufacturer to validate compliance with LEED NC 2.2 MR 5.1/5.2 Regional Materials

3. Provide documentation from manufacturer indicating contribution towards LEED NC 2.2 MR 2.1/2.2 Construction Waste Management.

C. Manufactures product data sheet: Include manufacturer's specifications, surface preparation, special notes and application instructions.

D. Manufactures material safety data sheet

E. Comply with section 01 77 00 – Closeout Procedures

**1.5 QUALITY ASSURANCE**

A. Manufacturer's Qualifications: Specialize in manufacture of curing and sealing materials with a minimum of 10 years successful experience.

B. Applicator shall have prior experience applying curing and sealing compound.

C. Regulatory Requirements: Products shall comply with federal, state and local VOC regulations.

D. Product shall contribute to LEED NC 2.2 points.

**1.6 DELIVERY, STORAGE AND HANDLING**

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Storage: Store materials in clean, dry area in accordance with manufacturer's instructions. Keep containers sealed until ready for use.

C. Handling: Protect materials during handling and application to prevent damage or contamination.

D. Do not use materials beyond manufacturer's shelf life limits

**1.7 PROJECT CONDITIONS**

A. Environmental Requirements

1. Do not apply curing and sealing compound when surface temperatures are below 40°F

2. Do not apply curing and sealing compound when surface temperatures are above 85°F

3. Do not apply curing and sealing compound on windy days

4. Keep from freezing

5. Mix well before each use

6. Do not apply curing and sealing compound in direct sunlight

## PART 2 – PRODUCTS

### 2.1 Acceptable Manufacturer

A. Vexcon Chemicals 7240 State Road Philadelphia PA 19135
Toll Free Technical Assistance 888.Vexcon1, fax 215.332.997, website www.vexcon.com email sales@vexcon.com.

B. Substitutions: Not permitted

### 2.2 Acceptable Material

**Specifier Note:** Refer to Vexcon Chemicals product data sheet or contact Vexcon to determine the appropriate cure and seal to be specified. Edit this list to include only those products to be included in the work.

A. Product: StarSeal EF UV Gloss

B. Description: Low VOC acrylic curing, sealing hardening and dust proofing compound

C. Compliances:

1. US EPA method 24

    a. VOC< 50 grams/liter or 0.39 #/gal

2. ASTM D 2369

    a. Minimum solids 25%

3. Meets all state, federal and local VOC clean air regulations including South Coast Air Quality District (SCAQD) rule # 1113 dated June 2008

4. ASTM C 309, Type 1 Class A&B

5 ASTM C 1315 Type 1 Class A, non yellowing

6. ASTM 2047, non slip

7. LEED NC 2.2 EQ 4.2

8. USDA approved -inspected meat, poultry and prepared-foods processing plants.

***or***

A. Product: StarSeal EF UV High Gloss

B. Description: Low VOC acrylic curing, sealing hardening and dust proofing compound

C. Compliances:

1. US EPA method 24

a. VOC< 56 grams/liter or 0.47 #/gal

2. ASTM D 2369

a. Minimum solids 30%

3. Meets all state, federal and local VOC clean air regulations including South Coast Air Quality District (SCAQD) rule # 1113 dated June 2008

4. ASTM C 309, Type 1 Class A&B

5. ASTM C 1315 Type 1 Class A, non yellowing

6. ASTM 2047, non slip

7. LEED NC 2.2 EQ 4.2

8. USDA approved -inspected meat, poultry and prepared-foods processing plants.

***or***

A. Product: StarSeal EF UV Super Gloss

B. Description: Low VOC acrylic curing, sealing hardening and dust proofing compound

C. Compliances:

1. US EPA method 24

a. VOC< 55 grams/liter or 0.46 #/gal

2. ASTM D 2369

a. Minimum solids 35%

3. Meets all state, federal and local VOC clean air regulations including South Coast Air Quality District (SCAQD) rule # 1113 dated June 2008

4. ASTM C 309, Type 1 Class A&B

5. ASTM C 1315 Type 1 Class A, non yellowing

6. ASTM 2047, non slip

7. LEED NC 2.2 EQ 4.2

8. USDA approved -inspected meat, poultry and prepared-foods processing plants.

***or***

A. Product: StarSeal EF UV Flat

B. Description: Low VOC non glossy acrylic curing, sealing hardening and dust proofing compound

C. Compliances:

1. US EPA method 24

    a. VOC< 67 grams/liter or 0.55 #/gal

2. ASTM D 2369

    a. Minimum solids 25%

3. Meets all state, federal and local VOC clean air regulations including South Coast Air Quality District (SCAQD) rule # 1113 dated June 2008

4. ASTM C 309, Type 1 Class A&B

5. ASTM C 1315 Type 1 Class A, non yellowing

6. ASTM 2047, non slip

7. LEED NC 2.2 EQ 4.2

8. USDA approved -inspected meat, poultry and prepared-foods processing plants.

***or***

A. Product: StarSeal EF UV Stain

B. Description: Low VOC colored acrylic curing, sealing hardening and dust proofing compound

C. Compliances:

1. US EPA method 24

    a. VOC< 20 grams/liter or 0.16 #/gal

2. ASTM D 2369

    a. Minimum solids 25%

3. Meets all state, federal and local VOC clean air regulations including South Coast Air Quality District (SCAQD) rule # 1113 dated June 2008

4. ASTM C 309, Type 2 Class A&B

5. ASTM C 1315 Type 2 Class B, non yellowing

6. ASTM 2047, non slip

7. LEED NC 2.2 EQ 4.2

8. USDA approved -inspected meat, poultry and prepared-foods processing plants.

## PART 3 – EXECUTION

### 3.1 SURFACE PREPARATION

A. Prepare surface in accordance with manufacturer's written instructions. The use of compatible Vexcon surface prep and specialty cleaning products is recommended were required

### 3.2 APPLICATION

A. Apply curing and sealing compound in accordance with manufacturer's written instructions.

B. Apply curing and sealing compound at a uniform rate in accordance with manufacturer's written instructions.

C. For freshly placed concrete apply curing and compound immediately after final finishing and immediately after disappearance of surface moisture sheen.

D. Curing shall be maintained for a minimum of seven (7) days or until seventy (70) percent of the specified concrete strength has been obtained.

### 3.2 PROTECTION

A. During curing period, concrete shall be protected from damage by equipment, temperature change, jobsite activities, traffic, rain, and running water until fully cured.

B. During sealing period, concrete shall be protected from damage by equipment, temperature change, jobsite activities, traffic, rain, and running water until fully cured.

**END OF SECTION**