



SECTION 03540 CEMENTITIOUS UNDERLAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Dramatic Surface Products, DSP 506 Fast-Set Deep Patch Cement-Based Underlayment
- B. Dramatic Surface Products, DSP 500 Multi-purpose Primer (Gypsum substrates only)

1.2 RELATED SECTIONS

- A. Section 03300 - Cast Underlayment Concrete
- B. Section 09000 - Finishes

1.3 REFERENCES

- A. ASTM C 109 Modified - Compressive Strength of Hydraulic Cement Mortars.
- B. ASTM C 580 Flexural Strength
- C. ASTM F 2170 Relative Humidity in Concrete

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300
- B. Manufacturer's MSDS and Product Data Sheets on each product to be used, including:
 - 1. Surface preparation instructions and recommendations
 - 2. Storage and handling requirements and recommendations
 - 3. Installation methods

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing Products specified in this section

- B. Underlayment shall be installed from featheredge to 1½" thick over large areas in a single application. Up to 5" with proper aggregate.
- C. Underlayment shall not require that the substrate be primed, unless used on gypsum substrates.
- D. Underlayment shall be formulated with a Calcium-aluminate cement, developing a compressive strength of 4200 psi when tested in accordance with ASTM C 109 Modified.
- E. Underlayment shall be covered by most flooring materials as soon as the surface hardens (60 – 90 minutes).
- F. Underlayment shall not require the addition of latex or any additive other than potable water.
- G. Gypsum substrate (minimum tensile bond strength of 72 psi (0.5 MPa)) requires priming with DSP 500 Multi-purpose Primer before underlayment installation.
- H. Warranty: Product shall be free from manufacturing defects and will not break down or deteriorate under normal use for 5 years.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of section 01650 and section 01660
- B. Store products in manufacturer's unopened packaging until ready for installation
- C. Store products in a cool dry place out of direct sunlight
- D. Maximum shelf life is 6 months from date of manufacture in unopened containers

1.7 PROJECT CONDITIONS

- A. For interior application only
- B. Do not install over wood products or vinyl
- C. Do not install below 43 degrees F substrate temperature
- D. Not for use in conditions of hydrostatic pressure or excessive moisture (>95% Relative Humidity) per ASTM F 2170

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Brand/Manufacturer: Dramatic Surface Products/ H.B. Fuller Construction Products Inc.; 1105 S Frontenac Street, Aurora, IL 60504 ASD. Tel: 800-832-9023. Fax: 800-952-2368. Web: www.DramaticSurfaceProducts.com

1. DSP 506 Fast-Set Deep Patch Underlayment

**** 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 01600.

2.2 MATERIALS

- A. DSP 506 Fast-Set Deep Patch Underlayment: Technical Data:
 - 1. Compressive Strength: 4,200 psi @ 28 days (Air curing samples) when tested in conformance with ASTM C 109 Modified
 - 2. Flexural Strength: 1,100 psi @ 28 days when tested in conformance with ASTM C 580
 - 3. Walkable hardness: 60 minutes
 - 4. Finish flooring installation: 60 – 90 minutes
 - 5. Working Time: 15 -20 minutes at 70 degrees F (21 degrees C)
 - 6. "0" VOC
- B. Primer: DSP 500 Multi-purpose Primer
 - 1. "0" VOC
- C. Aggregate shall be well graded, washed and dried pea gravel, 1/8 inch or 1/4 inch. Use for underlayment installed in thicknesses over 1½ inch thick.
- D. Water shall be cool, clean and potable.

2.3 MIXING

- A. Mix materials in accordance with manufacturer's instructions
- B. Standard Mix: Mix in accordance with manufacturers instructions
 - 1. Slowly add the entire 25lb. bag into water while mixing
 - 2. Use 2 – 2 ½ quarts of water per 25 lb. bag
 - 3. Use cool water not over 70 degrees F
 - 4. Mix using a 1/2-inch heavy-duty drill with blending paddle at a minimum of 650 rpm. Mix thoroughly to ensure a lump-free consistency.
 - 5. Smaller amounts may be hand mixed, 3½ parts DSP 506 to 1 part water

- C. Aggregate Mix: For areas to be installed over 1½ inch thick.
 - 1. Mix as specified for standard mix
 - 2. Add from 1/3 to 1 part by volume of 1/8 inch or 1/4 inch aggregate and mix thoroughly to evenly coat all aggregate
 - 3. Do not use sand

PART 3 EXECUTION

3.1 EXAMINATION

- A. Test moisture content of substrates:
 - 1. Per ASTM F 2170, do not install if relative humidity is >95%
 - 2. For moisture sensitive floor finishes refer to the finish floor manufacturers specifications for moisture limitations. Remediation of excessive moisture conditions must be done prior to installation Underlayment.
 - 3. Notify the Architect and General Contractor in writing of any unsatisfactory conditions

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions
 - 1. All surfaces shall be structurally sound and free from oil, grease, dust, loose or peeling paint, sealers, floor finishes, curing compounds or any contaminant that would prevent a good bond
 - 2. Minimum tensile bond strength of 72 psi (0.5 MPa) is required
 - 3. Substrate temperature shall be a minimum of 43 F during application
 - 4. Air temperature shall be maintained above 50 F
 - 5. For installation over cutback adhesive, remove adhesive by scraping until all that remains is a thin transparent layer of adhesive residue (minimum tensile bond strength of 72 psi (0.5 MPa) is required)
 - 6. For installation over gypsum substrates (minimum tensile bond strength of 72 psi (0.5 MPa) is required), prime with DSP 500 Multi-purpose Primer; 1 part primer to 3 parts water.
- C. Do not cover existing building expansion or control joints.

3.3 APPLICATION OF UNDERLAYMENT

- A. Immediately after mixing DSP 506 Fast-Set Deep Patch apply onto the flooring substrate.
- B. Using a trowel or screed, work the underlayment into the substrate
- C. Finish with a steel trowel to a smooth, level surface

3.4 PROTECTION

- A. Protect installed products until completion of project
- B. Do not permit traffic over unprotected floor underlayment surfaces

END OF SECTION