



SECTION 03540 CEMENTITIOUS UNDERLAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Dramatic Surface Products, DSP™ 502 Skim Coat, Fast-Setting 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 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 able to be installed from a true featheredge to ½" thick over large areas. For areas greater than ½" in thickness, apply in two-coats allowing the first coat to set before applying the second. Do not exceed a total thickness of 1".

- 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 3000 psi when tested in accordance with ASTM C 109 Modified.
- E. Underlayment shall covered by most flooring materials as soon as the surface hardens (30 – 60 minutes).
- F. Underlayment shall not require the addition of latex or any additive other than potable water, unless used as an embossing leveler.
- 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 1 year from date of manufacture in unopened containers

1.7 PROJECT CONDITIONS

- A. For interior application only
- B. Do not install below 43 degrees F substrate temperature
- C. Not for use in conditions of hydrostatic pressure or excessive moisture (>95% Relative Humidity) per ASTM F2170

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™ 502 Skim Coat 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 502 Skim Coat Underlayment: Technical Data:
 - 1. Compressive Strength: 3,000 psi @ 28 days (Air curing samples) when tested in conformance with ASTM C 109 Modified
 - 2. Finish flooring installation: 30 – 60 minutes
 - 3. Working Time: 15 -20 minutes at 70 degrees F (21 degrees C)
 - 4. Water shall be cool, clean and potable.
- B. Primer: DSP 500 Multi-purpose Primer (Gypsum substrates only)
 - 1. "0" VOC

2.3 MIXING

- A. Mix materials in accordance with manufacturer's instructions
- B. Standard Mix Instructions:
 - 1. Mix only as much DSP 502 Skim Coat as can be used in 15-20 minutes.
 - 2. Slowly add the entire bag of DSP 502 Skim Coat into 2½ quarts of clean, cool water not over 70 degrees F
 - 3. Mix at a low speed (not exceeding 300 rpm)
 - 4. Use a mixing ratio of 2 parts powder to 1 part water for smaller amounts
 - 5. Mix thoroughly to a smooth, lump-free consistency

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 of underlayment.
- B. 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 502 Skim Coat, with a flat steel trowel, work underlayment into the void to be filled
- B. Finish to a level surface to achieve desired smoothness

3.4 PROTECTION

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

END OF SECTION