



DSP™ 540

Extreme Fiber-Reinforced Underlayment

PRODUCT DATA

1. PRODUCT NAME

Dramatic Surface Products™
DSP™ 540 Extreme Fiber-Reinforced Underlayment

2. MANUFACTURER

H.B. Fuller Construction Products Inc.
1105 South Frontenac Street
Aurora, IL 60504-6451 U.S.A.
800.323.7407 Office
800.952.2368 Fax
www.DramaticSurfaceProducts.com

3. DESCRIPTION

DSP 540 Extreme Fiber-Reinforced Underlayment is a pumpable/pourable, cement-based product that can be used as a high-performing self-leveling underlayment designed for use over a variety of substrates. The resulting smooth finished surface is ideal for the installation of all types of floor covering, including carpet, ceramic or natural stone tile, resilient, laminate flooring and wood flooring.

Note: All surfaces must be primed with DSP 500 Primer before installing DSP 540 Extreme Fiber-Reinforced Underlayment.

Product Features

- Calcium aluminate technology for rapid strength development
- Fiber-reinforced self-leveling underlayment
- Superior flow properties
- Recommended for use with radiant heating systems
- Use directly over green concrete (<95% RH)
- Thickness ranges from 1/16" up to 1-1/2" depth in a single pour
- Cures to a smooth, consistent finish
- Walkable in 2-4 hours, finished floor goods can be applied as soon as 6 hours
- Contributes to LEED® project points
- 5-year limited warranty

Packaging

50 lb. Moisture Resistant Bag (22.67 kg)
Product # 70-5225-3111
2200 lb. Super Sack - Available upon request*

*Contact your DSP representative for further information.

Coverage

Coverage shown is approximate.
Actual coverage may vary based on substrate conditions.

| Thickness | 1/8" (3mm) | 1/4" (6 mm) | 1/2" (12 mm) | 1" (24 mm) |
|---|--------------------------|--------------------------|--------------------------|------------------------|
| Approximate Coverage per 50 lb. (22.67kg) Bag | 44-50 ft² (4.1 - 4.6 m²) | 22-27 ft² (2.0 - 2.5 m²) | 11-13 ft² (1.0 - 1.2 m²) | 5-6 ft² (0.5 - 0.6 m²) |

Suitable Substrates

- Concrete
- Ceramic, porcelain or quarry tile
- Cement terrazzo
- Cement backer board
- Epoxy terrazzo
- VCT or full glue down, non-cushioned vinyl sheet goods
- Exterior grade plywood or OSB (without reinforcement mesh)
- Existing tongue and groove wood flooring (without reinforcement mesh)
- Gypsum substrates - minimum tensile bond strength 72 psi (0.5 MPa)

Storage/Shelf Life

Store in a cool dry area away from direct sunlight. Maximum shelf life is 6 months from date of manufacture in unopened package.

Limitations

For interior use only. Do not apply when the temperature is below 50°F (10°C). Not for use in conditions of hydrostatic pressure or excessive moisture.

Cautions

Read complete cautionary information printed on product container prior to use. For medical emergency call 888-853-1758.

This Product Data Sheet has been prepared in good faith on the basis of information available at the time of publication. It is intended to provide users with information about guidelines for the proper use and application of the covered Dramatic Surface Products brand product(s) under normal environmental and working conditions. Because each project is different, H.B. Fuller Construction Products Inc. cannot be responsible for the consequences of variations in such conditions, or for unforeseen conditions.

4. TECHNICAL DATA

| Performance | Test Standard | Typical Results |
|-----------------------------|--|------------------------|
| 28 Day Compressive Strength | ASTM C-109 | 6,000 psi |
| 28 Day Flexural Strength | ASTM C-580 | 1,200 psi |
| Bond Strength (Concrete) | ASTM D-3931 | 350-400 psi |
| 28 Day Shrinkage | ASTM C-531 (Modified) | 0.025 - 0.050% |
| Walkable Hardness | N/A | 2-4 hours |
| Working Time | N/A | 15-20 minutes |
| Flooring Installation* | Permeable Coverings Non-Permeable Coverings | 6 hours 12-24 hours |
| Ideal Slump Range** | N/A | 10.5"-11.5" |

*Flooring material installation within hours shown above after application is dependent on thickness, drying conditions, and type of flooring.

**Ideal slump range is based on 2" diameter plastic/metal pipe x 4" high

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5. INSTALLATION INSTRUCTIONS

Preparation of Surfaces

It is required that all surfaces be structurally sound and free from any contaminants that may inhibit bond, including oil, grease, dust, loose or peeling paint, sealers, gypsum compounds, floor finishes, curing compounds, etc. Minimum tensile bond strength must be 72 psi (0.5 MPa). Substrate temperature should be a minimum of 43°F (6°C) during application and air temperature maintained above 50°F (10°C). DO NOT cover existing building expansion or control joints. Provide control joints where specified. Create 1/8" to 1/4" wide gaps where underlayment abuts walls, columns, and fixtures by installing a self-sticking foam weather stripping tape or damp sand (vacuum up sand after underlayment has cured). **Surfaces must be primed with DSP 500 Primer prior to installation of DSP 540.** See Primer label for application instructions.

DSP 540 can be installed over green concrete with RH of 95% or less. For moisture sensitive floor coverings refer to the finished floor manufacturer's specifications on moisture limitations. Remediation of excessive moisture conditions must be addressed prior to the installation DSP 540. To reduce moisture vapor emissions to an acceptable level, use DSP 508 Moisture Mitigator (see product data sheet for details). **For installation over cutback adhesive, remove adhesive by scraping until all that remains is a thin transparent layer of adhesive residue.**

Wood sub-flooring must be securely fastened with screw type or ring shank nails and adhesive. Installations of exterior grade plywood or OSB (APA Rated Sturd-I-Floor OSB, Exposure 1 or better) require 3/4" (19 mm) single layer minimum thickness on bridged floor joists up to 24" (60 cm) on center, with a maximum deflection of L/360 of the span. Allow a gap of 1/8" to 1/4" (3-6 mm) between sheets of plywood or OSB. Long edges of sub-floor must be tongue and groove or supported by bridging between floor joists. Plug all floor openings, gaps and cracks and install termination dams to prevent any seepage. Prime the floor. Allow primer to dry to a clear film. If required, staple 1/4" (6 mm) galvanized diamond metal or plastic lath to the floor overlapping at seams. Reinforcement (Diamond Lath, Standard steel concrete reinforcement lath or similar) should be used over substrates with high deflection or movement. Then install DSP 540 based upon the following joist spacing in the table below:

| Joist Spacing (O.C.) | Minimum SLU Thickness with Lath | Minimum SLU Thickness without Lath |
|----------------------|---------------------------------|------------------------------------|
| 16" or less | 3/8" | 3/4" |
| 20" or less | 1/2" | 3/4" |
| 24" or less | 5/8" | 3/4" |

Instructions for Mixing

Add the entire bag of DSP 540 to 5 - 5.25 quarts (4.7 - 5.0 l) of clean, cool water and mix with a high power drill (650 RPM). Mix thoroughly for two-three minutes. Scrape container's sides and remix to ensure a smooth, lump-free consistency. DSP 540 can also be used in most pump equipment, please consult a Dramatic Surface Products representative to verify equipment compatibility. A slump test should always be performed to ensure that mix is homogenized and free from separation.

How to Apply

Immediately after mixing, pour DSP 540 onto the primed substrate. Spread into place with a long-handle, gauge rake or smoother covering all high spots on the floor. Working time is approximately 15-20 minutes, depending on ambient air temperature, substrate temperature and relative humidity of the air. High temperatures and low humidity will shorten working time. DSP 540 can be applied from a 1/16" up to 1-1/2" (38 mm) depth in a single application. Up to 5" thickness may be poured with the addition of aggregate (well-graded, washed, dry pea gravel 1/8" or larger). To ensure proper bond, all aggregate and substrate must be completely coated with the underlayment mixture. Wood substrates where no reinforcement mesh or lath will be used, a minimum thickness of 3/4" must be maintained. If using reinforcement mesh or lath over wood, a minimum 3/8" pour depth shall be maintained. Do not use sand. For further information, please contact your Dramatic Surface Products representative.

The Curing Process

DSP 540 quickly dries to a walkable hardness in 2 to 4 hours. Permeable coverings can be applied in as little as 6 hours. Non-permeable coverings can be applied in 12-24 hours. DSP 540 is cement-based, and all general rules of concrete work should be observed to achieve maximum results. Never use forced air to accelerate the drying of DSP self-leveling cements. For best results, always test performance of finished floor systems prior to installation.

To Clean

While material is still fresh, wash tools, hands and equipment with warm soapy water.

6. AVAILABILITY AND COST

To locate a distributor in your area, please contact 800-621-0220.

7. WARRANTY

H.B. Fuller Construction Products Inc. (HBF-CP) offers a 5-year limited warranty on this product when installed in accordance with HBF-CP's printed specifications. Ask your sales associate or call 800-621-0220 for a copy of the limited warranty.

8. MAINTENANCE

Not applicable.

9. TECHNICAL SERVICES

Technical Assistance:
Information is available by calling 800-621-0220.

Technical and Safety Literature:
To acquire technical and safety literature, please call 800-621-0220.

10. FILING SYSTEM

Division 3 - Concrete
Division 9 - Finishes

