

Specification - *SpartaFlex*® 107-D
Polyaspartic Floor Coatings
Solid Color System - Intermediate Broadcast
12 mil DFT Exclusive of Micro-media Additive

Part 1: General

1.01 System Description

- A. Coating system for concrete floors.
- B. Three roller applied self-priming pigmented coats with intermediate micro-media broadcast.
- C. This system shall be applied to the prepared substrate(s) as defined by the plans strictly in accordance with the manufacturer's recommendations.

1.02 Submittals

- A. MSDS
 - 1. Most current copy of manufacturer's Material Safety Data Sheet must be present and readily available at all times.
- B. Product Data Sheets
 - 1. Current edition of manufacturer's product data sheet pertaining to products employed which includes physical data, chemical resistance, surface preparation and application instructions.
- C. Samples & Color Charts
 - 1. Official manufacturer's color card & wet and/or dry sample of the proposed system may be submitted to represent finished system.
- D. Warranty Information
 - 1. Standard manufacturer's warranty
 - 2. Applicator's standard warranty
- E. Applicators Qualification Assurance: Submit list of a minimum of 5 completed projects of similar size and complexity to this work. Include for each project:
 - 1. Project name & location
 - 2. Name of owner
 - 3. Name of contractor
 - 4. Name of architect
 - 5. Name of coating manufacturer
 - 6. Approximate area of coatings applied
 - 7. Date of completion
- F. All materials specified herein are manufactured by HP Spartacote®, Inc Golden, CO (866-966-1329).
- G. Equivalent Materials of Other Manufacturers: None

1.03 Quality Control

- A. Qualifications

1. Applicator shall have a minimum of 3 years experience in the preparation and application of fluid coatings to concrete floors and be properly trained/advised by the manufacturer.
 - B. Pre-Estimate Conference
 1. Applicators, Architect and Manufacturer's Representative shall conduct a conference prior to estimate to review all aspects of the application, including but not limited to: surface preparation, application and clean-up.
 - C. Packing & Shipping
 1. All materials are to be delivered intact to the job site in the manufacturer's original packaging with labels clearly identifying:
 - a. Coating or material name
 - b. Manufacturer
 - c. Color name
 - d. Batch or lot number
 - e. Date of manufacture
 - D. Storage & Protection
 1. All material is to be stored in a cool dry place away from direct sunlight and potential ignition sources. Refer to MSDS for additional information.
 2. All containers are to remain sealed until use.
- 1.04 Work Conditions
- A. Environmental Requirements
 1. Product can be applied with air temperatures as low as -30° F (-34° C)
 2. Maintain proper ventilation through fans and/or venting systems within project environment.
 3. Maintain adequate lighting, comparable to the finished project lighting, throughout the environment.
 4. Properly dispose of any waste in accordance with applicable regulations.
 - B. Safety Requirements
 1. Applicators should thoroughly review all pertinent technical data and MSDS sheets prior to application.
 2. "No Smoking" signs shall be posted within project area and remain clearly visible.
 3. Open flames, spark producing tools/items, and ignition sources shall be removed from the work area prior to application.
 4. Only work related staff shall be allowed into the work area.

Part 2: Products

2.01 Pigmented Coatings & Clear Top Coats

- A. Manufacturer: HP Spartacote®, Inc 810 Brickyard Circle #1 Golden, CO 80403, 866-966-1329, www.hpspartacote.com
- B. Sparta-Flex® primer-sealer/finish coatings, pigmented or clear, being self-priming, both decorative and protective, are a new generation of fast-curing, two-component, polyaspartic aliphatic polyurea products for interior or exterior use over properly prepared concrete, metal, wood, mineral substrates, and certain plastics. They have excellent penetration and bond strength to properly prepared surfaces and are UV resistant, light stable, and abrasion, impact, and wear resistant with flexible properties. They have good splash and chemical-spill-resistant properties involving commercial and household cleaners, pool water treatment products, and hot tires.

2.02 Properties

A. HP Spartacote® Sparta-Flex® exhibit the following cured system properties.

1. Property Profile and Abrasion Resistance Test Results:

Tensile Strength: ASTM D 638: 4,500 to 5,000 psi

Impact Resistance: Direct/Reverse 160/160

Falling Sand Abrasion Resistance ASTM D 968:

Clear.....30 liters sand/1 dry mil

Pigmented.....38 liters sand/1 dry mil

Mandrel Bend, ASTM D 522: Passes, no cracking, 1/8" mandrel bend

2. Adhesion Tests:

The tests performed were conducted in accordance with ASTM D 3359-90 Standard Test Methods for Measuring Adhesion by Tape Test. These tests were conducted on standardized steel panels, concrete panels, PVC plastic, plywood, and ceramic tile. These panels were coated with Sparta-Flex® coating system at one coat applied at 2-3 mils dry film thickness and two coats applied at 6.0-7.0 mils dry film thickness. Panels were allowed to age for 7 days prior to testing. These tests were conducted by two methods.

Test Method A consisted of an X-Cut Tape Test. In this test, two cuts were made by a sharp razor blade that intercepted. The small angle of the interception was between 30 and 45°. Using a three inch piece of tape applied firmly to the middle of the cut, determination was made regarding the degree of adhesion by rapidly removing the tape and observing the amount of coating removed with the tape.

Test Method B consisted on a Cross-Cut Tape Test. In this test, ¼ inch cuts are made perpendicular to each other. For the 2 mil coatings, 11 cuts are made in each direction. For the 6-7 mil coatings, 6 cuts are made in each direction. A three inch piece of tape was firmly applied to the cut areas and rapidly pulled off. Determination of the degree of adhesion is made by the amount of coating removed.

All tests conducted on the various substrates and at both thicknesses met the Classification 5B. Classification 5B means that there was no flaking and the total coating remained intact to the substrate.

3. Chemical Resistance Tests

The tests performed were conducted in accordance with ASTM D 1308-02 Standard Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes.

These tests were conducted on standardized steel panels at 75° F. and 50% Relative Humidity. The Sparta-Flex® coating system was applied in two coats at 6.0-7.0 dry film thickness. Panels were allowed to age for 7 days prior to testing.

The tests consisted of placing the specified chemical directly on the panel, covering the chemical with a watch glass and allowing to remain on a horizontal panel for 24 hours prior to evaluation.

HP Spartacote®
Patented Polyaspartic Coating Systems

CHEMICAL RESISTANCE TESTING	Results	
	No Effect	Not Recommended
50% Sodium Hydroxide	x	
20% Ammonia	x	
Vinegar	x	
50% Ethyl Alcohol (Smirnoff 100 Proof)	x	
5% Trisodium Phosphate	x	
10% Sulfuric Acid	x	
10% Muriatic Acid	x	
5% Nitric Acid	x	
10% Ammonium Hydroxide	x	
Lysol	x	
Lighter Fluid	x	
Gasoline	x	
25% Citric Acid	x	
Spic and Span Cleaner	x	
Chlorinated Pool Water (pH 6.5)	x	
Methyl Ethyl Ketone		x
Skydrol B	x	
Brake Fluid	x	
Windex	x	
Krud Kutter	x	
409 All Purpose Cleaner	x	
Pine Oil Cleaner	x	
Commercial Paint Remover		x
Motor Oil	x	
Mustard	x	
Catsup	x	
A-1 Steak Sauce	x	
Liquid Ivory Soap	x	
25% Lactic Acid	x	
Red Wine	x	
Beer (Bud Light)	x	
Butter	x	
Canola Oil	x	
20% Tannic Acid	x	
Coffee	x	
Tea	x	
Cocoa	x	
Pepsi Cola	x	
Pantene Shampoo	x	
Baby Oil	x	
Swine Urine	x	
Swine Feces	x	
Sewage Waste	x	
Distilled Water	x	
Keri Oil	x	
Magic Shave	x	
Infusium	x	
Jamician Dream	x	
Diesel Fuel	x	
Regular Paint Thinner (Aliphatic Hydrocarbon)	x	
Pickle Juice	x	
Colgate Toothpaste	x	
Tommy Aftershave	x	
Missoni Missoni Parfum	x	

Part 3: Execution

3.01 Inspection

A. General

1. Examine the project area and take note of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected by the contractor in a manner acceptable to the architect.

3.02 Preparation

A. Protection of Surfaces not Scheduled to be Coated

1. Protect surrounding areas and surfaces not scheduled to be coated from damage during surface preparation and application of coatings
2. Immediately remove coatings that fall on surrounding areas and surfaces not scheduled to be coated.

B. Patching & Joint Preparation

1. Prior to application, existing substrate shall be examined for any cracks, spalls, holes, etc. These must be treated with adequate crack filler/repair materials exhibiting properties equal to proprietary polyurea based crack repair system from HP Spartacote®. Contact manufacturer for additional information.
2. Functional, control or expansion joints can be partially or completely filled with a premium-grade, high-performance, moisture-cured, 1-component, polyurethane-based, non-sag elastomeric sealant exhibiting minimum elongation qualities of 100%. Contact manufacturer for additional information

C. Preparing Concrete Surfaces

1. Before application the receiving surface must be deemed structurally and mechanically sound, clean, and dry. Proper surface preparation is required for decorative-concrete, thin-film "Class-A-type" flooring systems or sealer/finish coatings. This is best achieved with mechanical grinding machines using diamond heads achieving a final 50- to 120-grit profile. Recommended surface profile is SP-2, Reference ICRI Technical Guideline No. 03732.
2. All receiving surfaces must be free of previous coatings, sealers, curing compounds, water repellents, laitance, efflorescence, oils, fats, grease, waxes, residues from cleaning compounds, non-visible soluble salts, and any other impediments to adhesion. The resulting surface must be a neutral PH 7.
3. The rising moisture vapor emission rate is recommended by the manufacturer to not exceed 3 pounds per 1,000 square feet (3 lb/1,000 ft²) over a 24-hour period as measured by the calcium chloride test method, ASTM F-1869. Up to 6 pounds per 1,000 square feet is acceptable provided a minimum of 3-coats and 11 mil DFT. For substrates exceeding 6 pounds per 1,000 square feet, a manufacturer approved moisture barrier primer may be utilized. Contact the manufacturer for more details. *HP Spartacote® does not warranty the use of such methods for high moisture content floors exceeding 3 pounds per 1,000 square feet (3 lb/1,000 ft²) over a 24-hour period and any moisture barrier primer system employed is done solely at the discretion of the applicator.
4. The relative humidity in the slab must not exceed 80 percent. Any repairs that are not associated with normal cleaning and surface preparation work (i.e., cracks, chips, pitted/severe spalls deemed non-structurally sound or have levelness issues) must be properly addressed and remedied prior to

application of the coating due to the fact that coatings follow the contours of the existing substrate. All spalls and cracks should be repaired in accordance with ICRI standards.

3.03 Application

A. General

1. The System shall be installed in the order annotated below:
 - a. Surface Preparation including Patching & Joint Preparation
 - b. Secondary Pigmented Coating Application
 - c. Final Clear Topcoat Application

B. Inspection of Prepared Concrete Surface

1. Before application, the substrate to receive the coating must be clean, free from dust & debris, free from any bond-inhibiting agents, and completely dry. All holes, cracks, spalls must have been remedied.

C. Mixing

1. The handling and mixture of the material shall be in strict accordance with manufacturer's recommendations.
2. Sparta-Flex®: Mix "Part A" and "Part B" in equal parts (1:1) using a clean, dry, working pot. Stir gently, avoiding over-mixing or creating a vortex that would introduce moisture. Do not mix at or below the dew point, which will shorten the pot life. No induction time is required prior to use.

D. Application of Material

1. Primary Pigmented Coat: Roller application is recommended. The roller must have an industrial-grade, phenolic-resin core with a synthetic-nap or lambs-wool cover, 1/8- to 3/8-inch nap, 18-inch width.
 - a. Initial coat is to be properly rolled and back-rolled in accordance with manufacturer's instructions at 3-4 mil. WFT (3 Mil. DFT)
 - b. Re-coat after approximately 1.5-2 hours
 - c. 48-hour re-coat window
2. Secondary Pigmented Broadcast (Bed) Coat: Roller application is recommended. The roller must have an industrial-grade, phenolic-resin core with a synthetic-nap or lambs-wool cover, 1/8- to 3/8-inch nap, 18-inch width.
 - a. Secondary Coat is to be properly rolled and back-rolled in accordance with manufacturer's instructions at 3-4 mil. WFT (3 Mil. DFT)
 - b. Broadcast coat will have micro-media agent broadcast directly into wet material.
 - c. Move immediately to step 3 below.
3. Broadcast Micro-media Agent directly into wet Broadcast coat.
 - a. Moderate broadcast of 3M® Quartz or equivalent directly into wet Broadcast coat. Broadcast media to desired profile.
 - b. Following hardening of coating material, remove all unused quartz from surface.
4. Final Pigmented Topcoat: Roller application is recommended. The roller must have an industrial-grade, phenolic-resin core with a synthetic-nap or lambs-wool cover, 1/8- to 3/8-inch nap, 18-inch width.
 - a. Topcoat is to be properly rolled and back-rolled in accordance with manufacturer's instructions at 6-7 mil. WFT (6 Mil. DFT)

3.04 Cleaning

A. Disposal & Cleaning

1. Allow all remaining catalyzed material to cure and dispose of properly.

2. Cleanup per manufacturer's recommendations

3.05 Project Completion & Quality Control

A. Return to Service

1. Project shall not be allowed to return to full service prior to a full 24 hours from completion of final topcoat.
2. The following tests shall be performed by the applicator and recorded during application to submit to the Architect.
 - a. Air Temperature
 - b. Substrate Temperature
 - c. Dew Point