



NextGen® Self-Prime Color HS & NextGen® Clear Coat HS High Solids 0-VOC Polyaspartic Aliphatic Polyurea Technical Product Bulletin

Product Description

FLEXMAR® NextGen® Self-Prime Color HS factory-pigmented polyaspartic coatings and NextGen® Clear Coat HS polyaspartic coatings are the next generation of two-component polyaspartic aliphatic polyurea products for interior and exterior use. They feature a longer working open time matching that of epoxies, fast cure, and quick return-to-service with virtually no odor. They allow for 2- or 3-coat high-build coating systems for decorative or protective requirements. (Refer to Coating Systems Overview - see www.flexmarpolyaspartics.com for details). They can be applied over properly prepared concrete, wood, mineral substrates, deglazed ceramic tile, and certain plastics.

They have excellent penetration without additional solvent reduction, and excellent bond strength to properly prepared and profiled surfaces. They are UV resistant (non-yellowing), light stable, and abrasion, impact, and wear resistant with flexible properties. They have good chemical-splash- and spill-resistant properties involving commercial and house-hold cleaners, pool water treatment products, and hot tire pick up.

Applications

FLEXMAR® coatings are ideal for concrete garage floors, patios, walkways, pool decks, concrete countertops, automotive sales and service areas, restaurant kitchen and dining areas, courtyards, atriums, malls, retail stores, rest rooms, fire stations, airplane hangars, ware-housing, animal housing facilities, medical or dental facilities, etc. They can be applied over properly prepared, intact VCT or ground ceramic tile flooring.

Specification

Refer to ARCAT Section 096723: Decorative Resinous Liquid-Applied Flooring. See www.flexmarpolyaspartics.com for details.

Product Features and Benefits

- Self-priming, excellent penetrating and bond strength.
- Excellent for grind and seal applications.
- Excellent abrasion, impact, and wear resistance.
- Excellent hot tire pickup resistance. (see limitations)
- Excellent vertical hang for use as an integral cove base.
- Can reduce floor care, cleaning, and maintenance costs.
- Low-temperature cure (-30°F/-34°C); longer cure time needed in low temperatures. (Note: Reference is related to surface temperature, not ambient temperature.)

* At 70°F (20°C) and 50% relative humidity.

- Can contribute toward satisfying credits under the U.S. Green Building Council LEED program.
- Re-coat and walk-on time, 1 hour; return to service, 1 to 2 hours.
- Up to 25 minutes working open time, even in most adverse weather conditions.*
- 1:1 mix ratio (“Part A” to “Part B”) by volume.
- Factory-pigmented coatings for greater color consistency batch-to-batch and a higher density of pigment for superior hide and filling over concrete.
- UV-resistant (non-yellowing); optical clarity of NextGen® Clear Coat HS.
- Static coefficient of friction > 0.6 ASTM D-2047. Micromedia agents can be added to increase slip reduction.
- VOC free, high solids, virtually no odor.
- Meets FDA/CFSAN, US Food Code, Physical Facilities criteria, outlined in 6.101.11 Surface Characteristics USDA acceptable. Not tested for 21 CFR food contact.
- Excellent stain resistance. Not tire staining.
- Skydrol resistance.
- Random/incidental heat contact: tolerant to 300°F (149°C).

Limitations

- Not recommended for use over solvent- or waterreducible acrylic sealers or stains.
- Not for use by spray application.
- Not for use by do-it-yourself individuals.
- Not guaranteed against tire staining. Vehicular tires are varied and infrequently have the potential to leave a stain. Many new vehicle dealerships place mats under showroom vehicle tires to prevent this.

Product Uses

- Two- or three-coat floor system consisting of NextGen® Self-Prime HS color primer/sealer followed by immediate broadcast of decorative flake chips or quartz, followed by one or two coats of NextGen® Clear Coat HS finish coat. Note: If concrete is highly porous, then an initial thin, tightly rolled color coat should be applied. After one hour, apply same color coat at 3 to 4 mils DFT followed by broadcasting vinyl chips.
- NextGen® Clear Coat HS directly applied over ground concrete surfaces, acid, color- or dye-stained, or semi-polished concrete, polymer-modified cementitious overlayers, or seamless multi-build epoxy/color quartz flooring. Note: Not recommended over acrylic sealers or stains.

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Product Uses, *continued*

- High foot traffic, along with certain types of vehicle and material-handling equipment.
- Final clear sealer finish or vinyl chip system overproperly prepared, intact VCT tile flooring.

Product Data

Type of Material: Polyaspartic Aliphatic Polyurea
VOC Content: 0 VOC, high solids 93%, virtually no odor
Recommended Dry Film Thickness: 2 to 10 mils per coat
Colors:
 Clear: High or medium gloss
 Pigmented: Standard factory or custom colors
Shelf Life: 12 months unopened. Store at 40°F to 100°F (4°C to 38°C) in a covered area (out of the sun)
Working Open Time: Up to 25 minutes, even in most adverse weather conditions*
Minimum Re-Coat and Walk-On: 1 hour or less
Return to Service: 1 to 2 hours minimum
Maximum Re-Coat: 48 hours (contact manufacturer)
Mixing Ratio: 1.0 Part A to 1.0 Part B, by volume
Application Temperature & Relative Humidity Ranges:†
 Temperature: 0°F to 100°F (-17°C to 38°C)
 Relative Humidity: 15% to 85%

Typical Property Profile

Adhesion to Concrete, ASTM D-4541: 300 psi concrete cohesive failure
 Tensile Strength, ASTM D-638: 4,500 to 5,000 psi
 Falling Sand Abrasion Resistance, ASTM D-968:
 Clear 30 liters sand/1 dry mil
 Pigmented 38 liters sand/1 dry mil
 Taber Abrasion, ASTM D-4060: 22-28 mg loss, CS-17 wheel, 1,000 g load, 1,000 revolutions
 Chemical Resistance, ASTM D-1308: Refer to chemical resistance chart
 Flexibility Mandrel Bend, ASTM D-522: Passes, no cracking, 1/8-in. mandrel bend
 Impact, ASTM D-2794: 160/160 in.-lb direct/reverse, no cracking
 Hardness, ASTM D-2240: 77 Shore D
 Flammability, ASTM D-635: Self-extinguishing
 Radiant Flux (CRF) ASTM E – 648 1.14 W/cm2

THEORETICAL COVERAGE RATES PER 1 MIXED GALLON: 1490 ft² @ 1 mil thickness 93% solids

Recommended Spreading Rates per 1 mixed gallon:

SELF-PRIME COLOR COAT for		
chip flakes or 1st quartz broadcast	200-240 ft ²	6-7 mils
CLEAR COAT:		
Over Chip Flakes	130-160 ft ²	9-11 mils
Over Quartz single broadcast:		
topcoat (1st clear coat)	140-180 ft ²	8-10 mils
topcoat (2nd clear coat)	140-180 ft ²	8-10 mils
Over Quartz 1/8 in. double broadcast:		
2nd broadcast into (1st clear coat)	140-180 ft ²	8-10 mils
topcoat (2nd clear coat)	110-130 ft ²	11-13 mils
topcoat (3rd clear coat)	240-290 ft ²	5-6 mils

Surface Preparation

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.

All receiving surfaces must be free of previous coatings, sealers, curing compounds, water repellants, 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.

Always check for potential bond breakers. One method is simply wiping the surface of the prepared concrete with a dark cloth. If white powder is present it should be removed. Another method entails pouring a slight amount of water on the concrete in random areas. If the water is absorbed into the concrete and leaves it wet, the substrate is porous and thus acceptable. If water beads up, this indicates a bond breaker is still present and further surface preparation steps are necessary, such as additional mechanical grinding.

* At 70°F (20°C) and 50% relative humidity.

† Lower temperatures or humidity slightly lengthen the working open time and re-coat or walk-on time while higher temperatures or humidity slightly shorten the working open time and re-coat or walk-on time.

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Surface Preparation, *continued*

The rising moisture vapor emission rate must not exceed 3 lb/1,000 ft² over a 24-hour period as measured by the calcium chloride test method, ASTM F-1869. 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 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.

Mixing

Mix “Part A” and “Part B” in equal parts (1:1) by volume using a clean, dry, working pot. Stir gently using a mechanical stirrer, avoiding overmixing 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.

If micro-media agents are to be incorporated, they are to be added after thorough mixing of “A” and “B.”

Working Open Time

Up to 25 minutes of working open time exists, even in most adverse weather conditions.*

Application Instructions

Apply using roller, squeegee, or magic trowel. 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.

Always use good air ventilation to remove evaporating solvents in enclosed areas.

This product is not to be applied using spray atomization. Not for do-it-yourself applications.

Cleanup

Use Xylol or MEK. DO NOT USE ALCOHOLS.

Storage and Shelf Life

The product must be stored in tightly sealed containers in a climate-controlled, dry location at normal room temperature. Containers which have been opened for use must be resealed immediately in a new container, preferably filled to the top (the more airspace in the container the greater the potential for reaction with moist air, decreasing the shelf life of the product).

Safety Precautions

Polyaspartic aliphatic polyurea products contain chemical ingredients that are considered hazardous. Read the container label warning and Material Safety Data Sheet for important health and safety information prior to use for details on the safe handling and use of these products.

LEED Certification Information

Flexmar Coatings is a member of the U.S. Green Building Council, and our NextGen polyaspartic coatings and sealers can contribute toward satisfying credits in the Indoor Environmental Quality and Materials and Resources categories under the LEED program. Contact Flexmar Coatings for more information and for third-party verification.



* At 70°F (20°C) and 50% relative humidity.

NON-Warranty: The information herein is based upon the best information available at the time of printing. Data provided is intended for those having skill and ability to use products recommended in a safe and responsible manner. LIABILITY is limited to the cost of material proven to be defective. There is no warranty expressed or implied as related to any issue which is deemed to be a direct result of improper surface preparation or cleaning, application over concrete or cementitious surfaces which have not reached full cure out, those having excessive rising moisture/vapor or hydrostatic pressure, application over surfaces which have previously been sealed without first testing for compatibility/adhesion, adverse water conditions, acts of God or acts of others, constant submersion in harsh environments, workmanship or applicator, or any other cause and effect which is not related to defective material.

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