



POLYASPARTIC

PRODUCT TECHNICAL USER MANUAL

■ PRODUCT OVERVIEW

P4503 & N5050 is a high-solid-content, two-component (1A:1B), non-yellowing polyaspartate ester polyurea designed for concrete floor coatings. It is typically used in combination with vinyl sheets. This transparent varnish can be applied directly or mixed with color slurry on-site to create colored coatings.

The product features excellent curing properties and optimal application timing, maintaining superior performance even in low-temperature environments. P4503 & N5050 enables complete floor system installation within a single day, with rapid reapplication capability. It offers superior mechanical and chemical properties along with low maintenance costs.

Additionally, it delivers outstanding aesthetic appeal and UV stability, making it ideal for outdoor applications. We recommend combining vinyl sheets with P4503 N5051, with two- or three-layer systems suggested for optimal performance.

■ APPLICATION AREAS

The chemical and mechanical properties of P4503 & N5050 deliver outstanding performance across diverse applications. Please note that its odor may not be suitable for all scenarios, depending on tolerance levels and ventilation conditions.

- Garage
- Other residential applications
- Business centers
- Office buildings
- Retail stores
- Manufacturing facilities
- Public facilities, including hospitals and schools
- Other commercial uses

■ KEY ADVANTAGES

- High solid content
- Better substrate coverage
- Available in transparent and precolored versions
- Non-yellowing
- Excellent impact and wear resistance
- With a simple 1A:1B system, primer and topcoat can share the same curing agent
- Primer and topcoat application can be completed within a single day
- Rapid solidification
- Ideal for outdoor use
- Supports dual or triple-layer systems
- Easy to install

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55 Village Centre Pl, Suite 100,
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The repainting process may be time-consuming, but the operational lifespan is long.

- Excellent chemical and mechanical resistance
- Waterproof
- Moisture resistant (low hygrosensitivity)
- Superior gloss finish
- The high-density formulation prevents dust infiltration, thereby reducing maintenance requirements.

Field Data

Mixing Ratio:	A:B = 1:1	
Packaging:	2-gallon barrels (2 × 3.78 L)	
Pigment:	Clear transparency	
Coating Rate:	Thickness (mil)	Coverage (sq. ft.)
	4	400
	6	267
	8	200
	10	160
	12	133
	14	114
	16	100
Quality Guarantee Period:	Under normal storage conditions, the product can be stored for up to one year in the original unopened factory container.	
End-Use Temperature:	Min: -30°C / -22°F Max: 30°C / 86°F	
Cure Time:	22°C / 72°F at 50% relative humidity.	



Working time	35 min	
Tack Free	1.5 h	
Recoat	4h - 24 h	
Dry Through	8 h	
Foot Traffic	24 h	
Light Traffic	48 h	
Full Cure	2 weeks	
opening time	35min	
Fully cured Shore D hardness	ASTM D2240	73D
Taber abrasion tester, wheel CS 17/1000 g/1000 rpm	ASTM D4060	70mg
dry friction coefficient, smooth coating	ASTM E303	1.2
pull-out test	ASTM D7234	> 3Mpa
elongation at break	ASTM D638	50%
tensile strength	ASTM D412	6700Psi
compression strength	ASTM D695	57Mpa
Impact-resistant, ft-lb	ASTM D2794	> 9
solid content	85%	
dynamic viscosity	300-700Cps	
VOC content	150g/L	
DE 500 hours of artificial climate aging	ASTM D3424	< 2

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■ MIXING

Mix Ratio: A:B = 1:1

■ MIXING METHOD:

Pre-mix Part A at low speed using an electric mixer. Special attention is required for pigmented versions, as pigments may separate from the formulation during storage. Mixing should continue until the color becomes completely uniform.

When working with pre-tinted products, the same batch number should be used. If different batch numbers must be used on the same project, we recommend pre-mixing all Part A separately first, then combining the different batches of Part A and mixing for two minutes until the color is uniform.

Mix equal parts of Part A and Part B at low speed using a mixer in a clean container free of contaminants. Mix thoroughly for at least 3 minutes until a fully homogeneous mixture is achieved. After approximately 90 seconds, it is recommended to reverse the mixer direction to help draw material from the bottom of the container to the top. Be sure to scrape the sides and bottom of the mixing container to avoid leaving unmixed material.

Mix only the amount that can be applied within the specified pot life / working time.

■ SYSTEM DETAILED DESIGN

2 Coatings		3 Coatings		
Primer + Color Flake	Top Coat	Primer	Primer + Color Flake	Top Coat
8-13 mils	8-13 mils	4-9 mils	4-9 mils	8-13 mils

■ NOTE:

When installing decorative flake flooring, we recommend using vinyl flakes. The total system thickness should not exceed 30 mils; otherwise, solvent entrapment or residual odor may occur after installation. The color of the primer should match the selected flake blend.

P4503 & N5050 can also be used as a protective topcoat over epoxy systems. In addition to providing excellent chemical resistance and easy cleanability, P4503 & N5050 offer added UV protection that significantly slows the yellowing of epoxy over time.

■ POLISH AND REPAINT

After 24 hours of curing (at 23°C) following the application of colored flakes, the floor surface should be properly ground until a matte finish is achieved. To achieve this effect, a sponge pad-equipped grinder is recommended, as it conforms to surface contours and allows sandpaper to reach the lowest points.

The grinding process should be performed in multiple directions and repeated until the entire floor achieves a matte finish. Post-grinding, xylene must be used to remove all dust and soften existing coatings for better adhesion with the new layer. This step requires xylene, as it softens the previous layer to enhance bonding. Xylene must be completely evaporated before applying the next coating.

For floors that have been cured for over 24 hours, a suitable floor grinder should be used.



- A mechanically bonded surface must be created, and existing coating pores must be opened to improve adhesion. Prior to applying the topcoat, dust should be removed using a vacuum cleaner, and the surface should be wiped with alcohol or solvent.

Construction must only proceed after complete evaporation of the alcohol or solvent. This step is essential to ensure proper adhesion. If surface preparation is uncertain, an adhesion test should be conducted.

Quartz sand can also be sprinkled and used together with aspartic coating; other materials are not recommended. We suggest using No. 32 silica sand. Once cured, when the primer and sheet material reach appropriate hardness, they should be scraped off and cleaned before applying the topcoat.

■ RESTRICTIONS AND NOTES

1. Minimum/maximum substrate temperature: 42°F / 86°F (5°C / 30°C)
2. Maximum relative humidity during application and curing: 85%
3. The substrate temperature must be 5.5°F (3°C) higher than the measured dew point.
4. The moisture content of the substrate must be less than 4%.
5. Avoid applying the coating to porous surfaces, as moisture transfer may occur during the application process.
6. Prevent moisture exposure, condensation, and contact with water during the initial 24-hour curing period.
7. If installing heated flooring, ensure the heating system is turned off during installation and throughout the curing period.
8. The total thickness of the system shall not exceed 50 mils.1.

■ OLD CONCRETE

The concrete surface must be cleaned. It is strongly recommended to use BLASTRAC, sandblasting, a 30-grit or coarser diamond grinder, or water spraying to remove surface contaminants. Any grease must be removed before product application. Acid etching (followed by thorough rinsing) may be required to open the concrete pores for primer application. Do not apply to wet substrates. Prior to use, check for chloride content, moisture, and pH levels.

■ NEW CONCRETE

Concrete shall be allowed to cure for at least 30 days. After 28 days, the compressive strength of the concrete must be at least 25 MPa, and the tensile strength must be at least 1.5 MPa. Surface laitance formed during curing shall be removed using BLASTRAC, sandblasting, diamond grinders with 30-grit or coarser abrasives, or acid etching (followed by thorough rinsing). Primer shall be applied to reduce gas release and enhance adhesion.

- We recommend using 100% solid products and avoiding solvent-based formulations when installing beyond standard thicknesses. If unconventional installation methods are considered, appropriate testing should be conducted. Under identical conditions, thicker coatings require longer curing times.

In hot and/or humid conditions, drying time will be shorter; conversely, in cold and/or dry conditions, drying time will be longer. Do not clean finished surfaces within one week after application. Store products at room temperature.

If dew point conditions cause persistent condensation on concrete surfaces that cannot be removed through grinding, ensure complete surface drying before application. Omitting this step may result in reduced working time and/or adhesion issues. Direct combustion, unventilated environments, and certain heat sources are not recommended, as they release byproducts that may negatively affect resin curing, leading to amine whitening, reduced adhesion, or other surface defects.

We do not assume responsibility for product quality. Since surface preparation, operating conditions, and application procedures cannot be controlled, results cannot be guaranteed. Customers are responsible for testing our products to verify their effectiveness. Although reasonable efforts are made to control the quality of finished products and components, ASTM test results may vary depending on raw material quality.

To meet our stringent requirements, we continuously test coatings and may occasionally modify formulations to enhance specific properties. The information and data contained in this reference document will be continuously improved. For details regarding product limitations, please contact us.

This product cannot completely prevent the migration of plasticizers in rubber (including automotive tires). Although plasticizer migration is extremely rare, under certain conditions such as high tire temperatures combined with:

- i) high plasticizer content, ii) certain types of plasticizers, and iii) specific tire compounds,

plasticizers may transfer from tire rubber to floor coatings. This phenomenon is irreversible and may cause staining in coated areas. Therefore, tires should be cooled before parking vehicles on coated surfaces.

Pressure washing and high-pressure rinsing must be used with caution. Excessive pressure may damage the coating, and hot water may also cause irreversible damage. When cleaning polymer coatings, water temperature must not exceed 49°C / 120°F, with an ideal range of 32°C to 43°C / 90°F to 110°F.

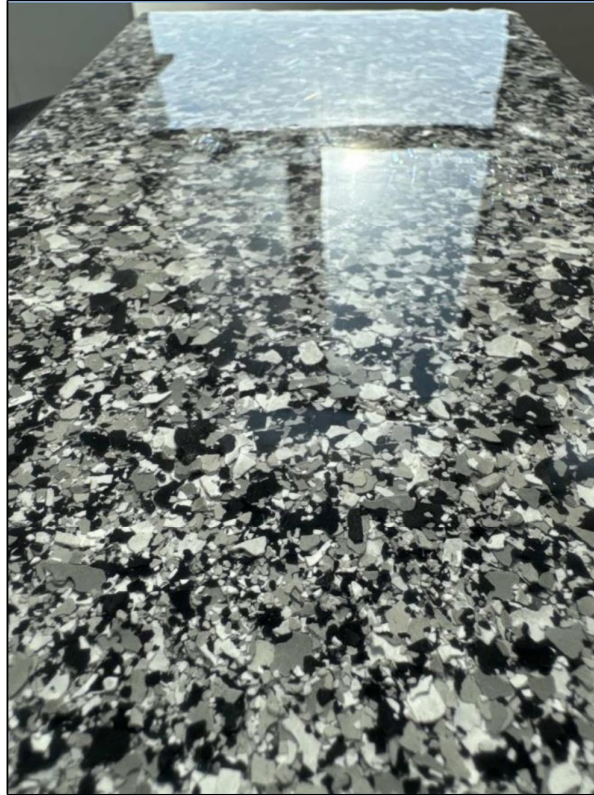
Contact with certain chemicals may trigger allergic reactions. Chemicals that may cause sensitization include synthetic or natural substances present in Part A or Part B of floor or cast products. Once fully cured and cross-linked, these substances become inert and should not cause allergic reactions. The raw materials used show no significant differences compared to those in similar products manufactured by competitors.

Before using this product, please refer to the latest Material Safety Data Sheet (MSDS).



HEXACRETE
EPOXY | POLYASPARTIC | MMA FLOORING

Actual Effect Display:



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