



## Polyaspartics Provide Polished Look and Lasting Durability for Residential Garage

**Base and Top Coat:**  
2K polyaspartic aliphatic coating

**Location:**  
Presto, PA

**Owner:**  
Private home owner

**Coating Supplier:**  
National Polymers Inc.  
NP344 polyaspartic coating  
Charleroi, PA  
800-831-5600  
www.nationalpolymers.com

**Floor Coating Contractor:**  
Seman Flooring  
Washington, PA  
724-228-4758

Architects and construction professionals in the commercial and residential markets seek durable yet beautiful coatings to protect concrete floors. Contractors and applicators are looking to utilize high-performance materials with low volatile organic compounds (VOC) and fast-cure times to improve productivity, and are often under pressure to accomplish excellent work cost effectively in a limited timeframe. Whether commercial or residential projects, polyaspartic coatings provide durable, aesthetically pleasing floor finishes with minimal downtime and faster return to service that meet contractors' and end users' needs. Best of all, coatings made with polyaspartic coating technology can be applied at temperatures below 50°F as well as in high-humidity environments, which extends the application season for such projects. These coatings can be applied by simple brush and roller and do not require special application equipment. Typical polyaspartic coatings can be applied from start to finish in an eight-hour workday.

To demonstrate the practical benefits of polyaspartic coatings, Covestro LLC monitored the application of a two-part polyaspartic coating on an approximately 700-square-foot residential garage. As with any project, site preparation was an important part of the process. In this case, the concrete floor was prepared with an HTC planetary grinder with 1820 grit diamond pads and was then vacuumed clean. Next, joints and saw cuts were filled with an aromatic polyaspartic flexible joint filler sealant. This sealant is advantageous because it has a quick gel time, and can be formulated for a fast cure, especially at low temperatures, allowing the sealant to be cut in 20 minutes.

A contractor, wearing the required personal protective equipment, began the basecoat application with a 3/32" notched squeegee and back rolled with a 3/8" nap roller. The basecoat was built at 8-12 mils using a two component high solids polyaspartic floor coating system pigmented gray and spread evenly and puddle free. During the application of the polyaspartic coating, one garage door remained open for ventilation, and the application was easily completed despite the 36°F air temperature and falling snowflakes outside. The wet coating was full broadcast with a 1/8"-1/4" three-color-blend decorative resin chip.

The floor temperature was approximately 45°F and it took roughly 1.5 hours for the basecoat to cure. After the coating cured, the floor surface was dragged with a heavy bar to break off any chips that were not lying flat and excess chips were vacuumed up. Then, a clear topcoat of a 2K high solids polyaspartic floor coating system was applied over the chips at 10-12 mils using a similar 3/32" notched squeegee.

After approximately two hours, the floor was able to accept foot traffic/light duty. After 6 hours, a car was able to be parked in the garage.

Tests conducted 4.5 years after installation showed a 95% gloss retention, 100% color retention, no hot tire staining, no hot tire pick up, no chemical staining, no road salt damage, and no cracking or blistering. The garage owner remarked, "I've used the new space as the eating area for a communion and confirmation party – and I'm not embarrassed... I feel like I put on an addition on the house."

Today, after more than 6 years of wear and tear, the polyaspartic coating technology used on the residential garage floor has retained its beauty and durability. The application has demonstrated the benefits of polyaspartic coatings including excellent UV-, chemical-, and abrasion-resistance, ultra-low VOCs, color stability, and cleanability. Polyaspartic coating technology also provides contractors with premium, yet cost-effective formulations that offer fast cure/quick return to service and can reduce labor costs due to the enhanced productivity compared with traditional coatings.

National Polymers NP344 is a solvent based two component 85% solids polyaspartic aliphatic urethane clear coating. NP344 has excellent chemical resistance, hardness, abrasion resistance, UV stability and has an excellent clear Gardner color. However, the outstanding feature of this product is its exceptionally quick tack free time of around 1-2 hours for foot traffic.

#### National Polymers NP 344 Aliphatic Polyaspartic Topcoat - Product Characteristics

<b>Mix Ratio:</b>	2:1 by volume
<b>Volume Solids:</b>	81% ± 3%, mixed
<b>Weight Solids:</b>	85% ± 3%, mixed
<b>VOC (EPA Method 24):</b>	<159 g/L mixed
<b>Viscosity, mixed:</b>	<1000 cps
<b>Drying Schedule @ 4.0 mils (100 microns) wet at 72°F (22°C):</b>	To touch: 1-2 hours — Light Traffic: 3-5 hours
<b>Pot Life: 150g mass @ 70°F (22°C), 70% RH</b>	30-60 minutes
<b>Abrasion Resistance ASTM D4060 C17 wheel 1000 cycles</b>	21 mg loss
<b>Shore Hardness D</b>	80D



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