"High Performance Industrial Flooring"

109 PumaTHANE™

100% Solids Hybrid Polyurethane Topcoat

PRODUCT DESCRIPTION

109 PumaTHANE is a uniquely versatile, high-performance hybrid polyurethane topcoat. It is a clear, two-component, thermosetting, low-odor, 100% solids, UV-stable urethane, designed for areas that require maximum abrasion and wear resistance and excellent all-around chemical resistance.

109 PumaTHANE S-Resin	High gloss
109 PumaTHANE Satin (Satin F-Resin)	Satin

Resins for special climates

Dry and cool RH <40% and/or <60°F	109 PumaTHANE F-Resin
Damp and warm RH >70% and/or >70°F	109 PumaTHANE HH-Resin

FEATURES & BENEFITS

- Excellent abrasion resistance
- No VOC, low odor
- UV stable
- Chemical resistant to Skydrol, jet fuel, and a wide variety of industrial chemicals
- High and low gloss
- MicrobeBLOK antimicrobial
- Meets USDA and FDA standards
- OSHA and ADA compliant
- Complies with EPA VOC regulations for AIM coatings

TYPICAL USES

- Hangars and aerospace
- Manufacturing
- Labs and clean rooms
- Pharmaceutical
- Garages
- Hospitals

LIMITATIONS

- Best suited for application at temperatures between 60°F and 90°F.
- Some light colors may require multiple coats for adequate hiding power. Certain colors appear white when scratched.
- Slight batch-to-batch color variations may occur. When ordering to match a previous color, ask whether the same batch number or quality control number is still available.

PHYSICAL CHARACTERISTICS

Solids (by wt.)	100%; 96% Satin Resin
Mix Ratio (by vol.)	S, F, and HH: 1 part Resin : 2 parts Hardener Satin and Satin F: 1 part Resin : 1 part Hardener
Viscosity @ 70°F	800 cps
Pot Life @ 70°F	60 minutes (average)
Cure Time, Tack-Free @ 70°F, 50% RH	S-Resin: 10–12 hrs foot traffic Satin and HH-Resin: 18–24 hrs foot traffic F and Satin F-Resins: 6–8 hrs foot traffic Full traffic: 48 hrs (HH-Resin); 24 hrs (S and F-Resin)
Working Time @ 70°F, 50% RH	HH-Resin: 40+ min; S-Resin: 40 min; Satin Resin: 40+ min; F and Satin F-Resins: 15 min
Recoat Window	Maximum of 36 hours (F-Resins: 24 hours)
Coverage Rate	4 mils, 401 sq ft/US gal; 3 mils, 534 sq ft/US gal
VOC	Nil

COVERAGE RATE

A gallon of 109 PumaTHANE covers at a standard spread rate for a finish topcoat of **3–4 mils, or 500–600 sq ft per gallon**.

Body coats and topcoats vary in thickness depending on the condition of the substrate and the type of system.

PRODUCTS GUIDE

1. 109 PumaTHANE S (Standard) Resin

Offers extended working time of up to 40 minutes at 70°F, 50% RH; rising temperatures above 70°F will measurably reduce working time. Mixed at 1 part resin to 2 parts hardener, it can be applied from 3–4 mils.

PRELIMINARY FLOOR INSPECTIONS

Check the temperature and humidity

109 PumaTHANE is sensitive to moisture and temperature during application and curing. Floor and material temperatures should be between 65°F (18°C) and 90°F (32°C). Humidity must be less than 90%. **Do not coat unless the floor temperature is more than five degrees above the dew point.**

RECOAT REQUIREMENTS

For a recoat application beyond 36 hours, lightly grind the existing topcoat with 100-grit diamonds, vacuum, and tack-wipe before re-application. Please call PumaCRETE technical support for further instructions.

MIXING INSTRUCTIONS

Application equipment

- PPE and clothing per SDS
- Jiffy® mixer blade (ES model)
- Clean mixing container
- Low-speed / high-torque drill
- Shed-resistant roller cover, 1/4" nap
- Wide-Boy bucket for "dip 'n' roll"

See "Products Guide" for mix ratio

8–16 oz of PumaCOLOR colorant is recommended per gallon of material (see product label). When field pigmenting, mix it homogeneously into the resin before adding the hardener.

When combining, add the resin (clear or pigmented) to the clean mixing container first, then add the hardener, scraping out the container. Always pour into the center of the mixing container. Mix the components thoroughly for 1–2 minutes with a Jiffy ES-style mixing blade. Mix only as much material as can be applied without exceeding the pot life.

Additives

- **PumaWEAR** additive is available for enhanced abrasion and wear resistance in the PumaTHANE finish coat. One quart per 1.5-gallon mix. The addition of PumaWEAR shall reduce gloss to a satin finish. **Do not use in wet areas.**
- **PumaGrip** additive can be included for enhanced slip resistance: 3 oz per gallon of liquid.

CARE & MAINTENANCE

Cleaning guidelines

Allow the floor coating to cure at least 3 days before cleaning by mechanical means (e.g., sweeper, scrubber, disc machine).

Care

Proper maintenance will increase the service life and help maintain the appearance of your new PumaCRETE floor coating system. This is considered a low-maintenance coating system; however, certain textures and service environments require specific procedures. See the PumaCRETE "Cleaning Guidelines" for more information.

PRODUCTS GUIDE (CONTINUED)

2. 109 PumaTHANE F-Resin

Designed for use when relative humidity is below 40% and/or ambient temperature is below 60°F. Also provides an accelerated cure for fast-track applications when relative humidity is above 50% and/or ambient temperature is above 60°F. Mixed at 1:2 (resin:hardener), it can be applied from 3–4 mils.

3. 109 PumaTHANE HH (Heat/Humidity) Resin

Offers optimal working times at higher temperatures and humidity. Best applied at 70°F and rising, with humidity above 70%; working time up to 40 minutes. Mixed at 1:2 (resin:hardener), it can be applied from 3–4 mils.

4. 109 PumaTHANE Satin Resin

A low-gloss system. Mixed at 1 part resin to 1 part hardener, it can be applied from 3–4 mils.

5. 109 PumaTHANE Satin F-Resin

Designed for use when relative humidity is below 50% and/or ambient temperature is below 60°F. Also provides an accelerated cure for fast-track applications when relative humidity is above 50% and/or ambient temperature is above 60°F. Mixed at 1:1, it can be applied from 3–4 mils.

109 PumaTHANE Hardener is used with ALL 109 PumaTHANE resins.

COLORS & OPTIONS

Colors	See "Color Guide"
Optional	PumaGrip (non-skid); PumaWear (wear resistance); 120-PumaCOLOR universal colorants (on-site pigmenting); PumaBLOK (antimicrobial)

PACKAGING

Resin	1 gal and 5 gal pails
Hardener	1 gal and 5 gal pails

PHYSICAL PROPERTIES

Property	Test Method	Result
König Hardness (3 mils)	ASTM D-4366	171
Tensile Strength	ASTM D-2370	6,500 psi
Tensile Elongation	ASTM D-2370	8%
Adhesion	ASTM D-4541	400 psi, concrete failure (applied over epoxy)
Impact Resistance	ASTM D-2794	>160 in/lb
Water Absorption	ASTM D-570	<0.1%
Flame Test (3 mils over cement board)	ASTM D-648	Class 1
Abrasion Resistance (CS-17 wheel, 1,000 g load, 1,000 cycles)	ASTM D-4060	10–15 mg loss (24 hrs); 5–10 mg loss (72 hrs)
Coefficient of Friction (James Friction Tester)	ASTM D-2047	Wet 0.7 · Dry 0.8 (smooth)

CARE & MAINTENANCE (CONTINUED)

Caution

Avoid scratching or gouging the surface — all floor coatings will scratch if heavy or sharp objects are dragged across them. Do not drop heavy or pointed items on the floor, as this may cause chipping or concrete pop-outs where the substrate cap is weak.

Rubber tires can permanently stain the floor coating through plasticizer migration; in warehouse and industrial settings, non-marking tires are highly recommended. Rubber burns from quick stops and starts can heat the coating to its softening temperature, causing permanent marking.

Repairs

Repair gouges, scratches, or chip-outs as soon as possible to prevent moisture or chemical contamination.

STORAGE & SHELF LIFE

Storage	Indoors, 60°F (16°C) to 90°F (32°C)
Shelf Life	One (1) year from date of manufacture

TECHNICAL SUPPORT

For any application questions, please call PumaCRETE technical support at 857-226-8247.

DISPOSAL

Dispose of in accordance with federal, state, and local regulations.

SAFETY (SDS)

Please see the Safety Data Sheet (SDS) for safety and precautions. Use product as directed. **Keep out of the reach of children.**

WARRANTY

Seller warrants that its goods, as described on the face hereof, are free from any defects in material or workmanship. Seller makes no other warranty, express or implied, and all implied warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Seller shall not be liable for prospective profits or special, indirect, or consequential damages. Seller's sole liability and buyer's exclusive remedy for breach of any warranty is expressly limited, at seller's option, to replacement at the original F.O.B. point or refund of the purchase price. Seller shall not be responsible for any claim resulting from failure to use the product in the manner in which it was intended and in accordance with the instructions provided for its use. Any claim for breach of warranty shall be deemed waived unless buyer gives seller written notice of such claim within sixty (60) days after delivery and allows seller reasonable opportunity to investigate the claim and inspect the product.