EZ 22-SPS
2-Component Solvent-borne Polyurethane Sealer - Gloss

Product Data Sheet

623 Chatsworth Hwy 225 Calhoun, GA 30701 706.403.3286 lamininindustries.com

DESCRIPTION: Laminin's EZ-22-SPS is a Gloss, 2-Component, Low Viscosity, Acrylic-Modified Solvent-borne Polyurethane primer/ sealer used as a protective or maintenance wear surface over decorative concrete, pavers, concrete stains, etc. with superior adhesion, abrasion resistance, gloss retention, stain resistance versus typical low solids single component solvent based acrylic sealers.

EZ 22-SPS achieves a wet-look to boost color & depth of stains (i.e. Color Floor, Color Accents, Color Wall). Yields an easy to clean, hard film finish that is Fast Curing, Ultra Violet Light Stable, Stain & Hot Tire Pick-up Resistant with easy re-coatability for future maintenance re-coats.

EZ-22-SPS may be used as a fast curing primer in higher traffic exterior commercial applications, such as shopping centers, hotels, university campuses, airport pedestrian walkways, etc. prior to other topcoats.

RECOMMENDED AS A FINAL TOPCOAT FOR:

- Commercial & Residential:
  - Stained Concrete
  - Decorative & Stamped Concrete
  - Pavers

HIGHLIGHTS:

- Fast Curing but Good Pot-life
  - Recoat in 90 minutes at 75°F / 50% Humidity
  - 1 hour Pot-Life at 75°F / 50% Humidity
- U.V. Stable
- Stain Resistant
- More Durable than traditional solvent based Acrylic Sealers
- Easy to Clean & Maintain
- Wet Look – Enhances Colors
- Hot Tire Pickup Resistant
- Low VOC's – Less than 50 g/L
  - Meets Source Specific Standards Rule 1113 established by AQMD in California

STORAGE:
Indoors between 50°F (10°C) to 95°F (35°C)

INSTALLATION TEMPERATURE RANGE:
50°F (10°C) to 100°F (38°C) with up 80% Humidity

SHELF LIFE:
24 Months (original, unopened containers); 30 days (once opened)

AVAILABLE KIT SIZES:
Gloss:
1.25 Gallon kit – EZ 22-SPS-Gloss-160oz

5 Gallon kit – EZ 22-SPS-Gloss-640oz

COLOR:
Clear

POTLIFE & TRAFFIC TIMES (75°F / 50% Relative Humidity):

Cure time is affected by temperature & humidity.	**EZ 22-SPS Gloss**
Pot Life	60 minutes
Working Time	30 minutes
Tack Free	90 minutes
Light Foot Traffic	4 hours
Heavy Foot Traffic	24 hours
Vehicle Traffic	2 – 3 days
Full Chemical Resistance	7 days

RECOAT - CURE TIMES BETWEEN COATS:

HUMIDITY	**TEMPERATURE (Cure Rate in Hours)**
	75°F (24°C)
≥35%	2 ½ - 3 hours
50%	1 ½ hours
≤75%	1 hour

CURED COATING PROPERTIES (DRY FILM):

PROPERTY	**TEST METHOD**	**RESULTS**
Abrasion Resistance *mg/loss* *Taber Abraser	ASTM D4060	86 mg
Hardness (Pencil)	ASTM D2370	2H
Adhesion to Concrete	ASTM D4541	Concrete Fails
VOC's	ASTM D3960	42 g/L (Poly SB/G)
Gloss (60°)	ASTM 1455	±85 (Poly SB/G)
Viscosity (Mixed) – @ 77°F	ASTM 2196	150-200 cPs
Flammability	ASTM D635	Self-Extinguishing
Volume Solids	ASTM D2196	±39%

*CS-17 Taber Abrasion Wheel, 1,000 gram load, 1,000 revolutions Results are based on conditions at 77°F (25°C), 50% relative humidity.

APPROXIMATE COVERAGE (DRY FILM):
Varies depending on application thickness, floor profile & substrate absorbency.
Dry Film Thickness Coverage Equation: 1604 ÷ milage x 0.6 = DFT

Mil Thickness DFT (WFT)	**Approximate Coverage per mixed gallon**
1.83 mils DFT (3 mils WFT)	534 sq.ft./gal
2.44 mils DFT (4 mils WFT)	400 sq.ft./gal
3.05 mils DFT (5 mils WFT)	321 sq.ft./gal
3.66 mils DFT (6 mils WFT)	267 sq.ft./gal

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Typical Chemical & Stain Resistance

Covered Spot Test - 3 mil film at 7 day cure:
***E** - Excellent; **G** - Good (slight sign of exposure/stains, coating recovers);*
***NR** - Not Recommended (Permanent Damage)*

	24 hour Exposure
ACIDS	**GLOSS**
Acetic Acid 25% (Vinegar)	E
Citric Acid 10%	E
Lactic Acid (Milk)	G
Phosphoric Acid 85%	NR
Sulfuric Acid 25% (Battery Acid)	E
Sulfuric Acid 98%	NR
Hydrochloric Acid 32% (Muriatic)	G
Nitric Acid 50%	NR
BASES	
Ammonium Hydroxide 10%	E
EBGE	E
Sodium Chloride 20%	E
Sodium Hydroxide 50%	E
Sodium Hypochlorite (Bleach)	E
Trisodium Phosphate 10%	E
ALCOHOLS	
Ethylene Glycol (Antifreeze)	E
Hand Sanitizer	E
Isopropyl Alcohol 91%	E
Methanol	E
SOLVENTS	
Acetone	G
d-Limonene	E
MEK	G
Methylene Chloride	E
Mineral Spirits	E
PGMEA	G
HYDROCARBONS	
Brake Fluid	N/R
Transmission Fluid	E
Motor Oil	E
Gasoline	E
Kerosene	E
Hydraulic Fluid	E
Skydrol® – LD-4	NR
MISCELLANEOUS	
Coffee	E
Coke®	E
Dish Detergent (Dawn®)	E
Hydrogen Peroxide 3%	NR
Ketchup	G
Monster Energy® Drink	E
Mustard	D
Povidone-iodine (BETADINE®)	D
Tide® 1%	E
Windex® (Ammonia Based)	E
Wine – Red	G

Coke® is a registered trademark of Coca-Cola. Monster Energy® is a registered trademark of Monster Energy Co. Skydrol® is a registered trademark of Eastman Chemical. Dawn® & Tide® are registered trademarks of Proctor & Gamble. Windex® is a registered trademark of S.C. Johnson & Son, Inc. Betadine® is a registered trademark of Avrio Health L.P.

LIMITATIONS:

- AVOID applying EZ 22-SPS while humidity is greater than 90% during installation
- DENSE/SMOOTH SURFACES - Use over dense, minimally profiled surfaces requires scrubbing with a nylon bristle brush attached to an orbital floor buffer followed by thorough water rinsing with a pressure washer
- HEAVY TEXTURE SURFACES - Use a ¾" nap roller cover when applying over heavy texture surfaces, such as knockdown overlays or heavy stamped patterns, while ensuring no puddling remain
- DO NOT PUDDLE – Maximum single layer thickness wet should not exceed 200 sq.ft. per gallon (8 mils WFT) to avoid solvent entrapment
- DO NOT INSTALL when the Dew point is within ±5° of the temperature

INSPECT THE SUBSTRATE: Ensure the substrate is structurally sound and solid as well as free of any contaminants that may act as a bond breaker, such as oil, paint, densifier/sealers, curing compounds, wax, silicone, etc.

TEMPERATURE and HUMIDITY: Substrate temperature & materials must be maintained between 50°F (10°C) & 100°F (38°C) with less than 80% Humidity for 24 hours prior to and 24 hours after installation. *Do not install when the Dew point is within 5° of the temperature.*

CHECK FOR MOISTURE: Exterior concrete must be dry at time of sealing.

Interior Concrete – NOT RECOMMENDED FOR INTERIOR USE

CONTAMINATION OF SUBSTRATE: Concrete is porous and can become contaminated with oils, chemical from spills, etc. which act as a bond breaker. Determine if a potential bond breaker exists and a proper course of remediation. Contact Laminin Industries for remedial recommendations while following local regulations regarding contaminant and disposal.

NECESSARY TOOLS and EQUIPMENT:

- Paint Mixing Paddle attached to a low speed drill (≤650 RPM)
- Premium, Non-Shed Paint Roller Covers (nap size varies)
- Painters Tape
- Chip Paint Brushes
- Paint Roller Frames
- Extension Pole
- Cleaning Solvent (Use water while wet; Xylene or MEK if freshly cured)

NOTE: The Mix station and all application equipment should be ready for immediate use prior to mixing any product. Higher temperatures and humidity will shorten pot life.

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CAUTIONS/WARNING: Material is combustible. Extinguish all flames, pilot lights and electric motors until all vapors are gone and the coating is hard. Keep away from sparks, heat and open flame. Use with adequate ventilation when mixing, applying and curing. Product emits harmful solvent and isocyanate vapors which can cause respiratory irritation. Individuals with chronic lung or breathing problems or negative reaction to isocyanates, should not use this product. The use of a self-contained respiratory equipment (TC 19C NIOSH/MESA) is recommended. Prevent all contact with skin. Use impermeable gloves and chemical resistant eye protection

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SUBSTRATE PREPARATION

NOTE: *Methyl Methacrylate (MMA) is NOT an acceptable substrate and delamination will occur if topcoated.*

Surface preparation should be viewed as the most important step in a successful application. Proper floor preparation results in the product's longevity, minimizes potential failures and creates the best environment for an aesthetically pleasing work of art. In short, the more detail and time allotted to this phase of the project will dramatically affect appearance and durability of the finished floor.

SEALER OVER A NEW COATING SYSTEM: Ensure the previous layer has cured enough to receive another layer, shows no indication of blushing and has NOT exceeded the recoat window. Correct any surface imperfections in the previous layer prior to top-coating. It is highly recommended to degloss the surface of epoxy and other prior layers to remove surface imperfections and to achieve ideal inter-coat adhesion between layers, especially in wheeled traffic environments or if the previous layer has cured beyond the re-coat window.

**See Screen/Sanding below for instructions.*

TOPCOAT EXISTING SEALER or STAINED CONCRETE: Adhesion to any existing sealer is only as good as the adhesion the existing sealer has to its substrate. Always test to determine the suitability of an existing substrate and mock-ups are highly encouraged. Allow the mock-up to cure for no less than 1 week before performing adhesion testing, such as a tape test or using an Elcometer. The existing sealer should be thoroughly deglossed/scuffed and clean prior to topcoating.

TOPCOATING EXISTING RESINOUS COATING SURFACES: Mechanical abrasion is very highly recommended for properly adhere to an underlying resinous layer. To degloss an existing resinous coating surface, mechanically abraded using 100 to 120 grit sand paper or screens (but not courser) or use AB brushes or wire brush heads for heavily textured surfaces such as stamped concrete which have been previously coated with a high solids sealer. Use an orbital floor machine to a uniformly dull surface with no remaining shiny areas then cleaned to remove all dust/ debris prior to receiving a topcoat of EZ-22 SPS. Courser grit sandpaper or screens are less effective at deglossing and achieving a fine scratch pattern. Then tack rag the surface with a solvent (i.e. Acetone) and a white, clean cloth.

NEW CONCRETE: Ensure the bleed water has escaped new concrete surfaces and clean / pressure wash prior to sealing with EZ 22-SPS. When a low sheen is desired, always apply a primer coat of EZ 22-SPS first to ensure a uniform finish film appearance with the topcoat of EZ 22-SPS Low Sheen.

NEW STAINED CONCRETE:

EZ 22-SPS can used to seal directly over Acid Stains, traditional stamped concrete, integrally colored concrete and cementitious overlays once the substrate has been properly prepared.

Follow preparation method for the product used prior to EZ 22 SPS.

When sealing, allow to full cure* *(minimum 12 hours)* then remove all loose particulate utilizing a leaf blower. If standing water is present, remove excess water with cloth or squeegee. Allow substrate to dry before application of EZ 22-SPS.

JOINTS, CRACKS & PATCHING: Honor expansion joints at the finish floor elevation. Follow ACI 224.3R-95: Joints in Concrete Construction guidelines for proper filling of construction and control joints. Clean out all joints and moving cracks open with a Diamond cutting blade prior to filling or patching as necessary. Honor joints at the surface after the coating is applied then fill will an appropriate joint filler to lessen joint telegraphing. DO NOT apply EZ 22-SPS over joint fillers such as caulk, Polyurea, silicone, urethane or flexible joint fillers.

ACI recommends allowing a concrete slab to cure for a minimum of 60-90 days or longer to allowing the slab to shrink and acclimate to the intended joint width thus reducing the risk of joint wall separation from the joint filler. Cooler climate applications such as freezer and coolers must be brought up to and held at a minimum of 45°F substrate temperature for no less than 10 days prior to as well as 7-10 days after filling with an appropriate semi-rigid joint filler, ideally longer if possible.

Patching of chips, gouges, etc. may be repaired with a variety of different, compatible coating materials, to include:

Patching for Decorative Concrete Applications Should the surface of the concrete require extensive resurfacing or repairs, please contact Laminin for more recommendations based on the site conditions.

MIXTURE: Premix the Part A for approximately 1 minute using a clean, paint mixing paddle on a low RPM drill (<650 RPM). If part mixing, measure 2 Part A to 1 Part B by volume and mix in a clean 5 gallon plastic pail using a paint mixing paddle attached to a slow speed drill (≤650 RPM) for 1-2 minute.

NOTE: *DO NOT TURN THE MIXING VESSEL UPSIDE DOWN ON THE SUBSTRATE TO ALLOW THE RESIDUAL PRODUCT TO DRAIN ONTO THE FLOOR TO AVOID THE RISK OF ANY UNMIXED OR NON-THOROUGHLY CATALYZED PRODUCT FROM THE SIDES AND BOTTOM OF THE MIXING VESSEL FROM REACHING THE FINISHED FLOOR.*

Best practice is to pour the mixed contents into a paint tray then dip and roll onto the substrate or spray apply and back roll out the puddles.

APPLICATION:

***Thinning*:** Material is supplied as a 2-component "ready-to-use" sealer. Applicator may add up to 10% Xylene or MEK during application to lower viscosity (make sealer thinner). The addition of water must be introduced after Part A and Part B have been mechanically mixed. EZ 22-SPS may be applied via brush, pump sprayer or roller. Application rate must be kept above 200 square feet per gallon to avoid bubbles created from off gassing (resulting from thicker application).

NOTE: *DO NOT APPLY material if humidity is over 90% and ventilation is poor. Improper cure will result.*

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***Roller Application*:** Use a 3/4 inch (heavy texture) or 3/8 inch non-shed roller cover. EZ 22-SPS can be roller applied. DO NOT OVER-APPLY or ALLOW EXCESS PUDDLING of EZ 22-SPS.

Best practice is to pour the mixed contents into a tall, 5-gallon paint tray, then dip the paint roller into the mixture coat the roller head then roll off any excess into the paint tray avoiding liquid build-up on the sides of the roller caps and/or the frame. Then roll out evenly onto the surface in a V-shaped pattern working across the area while overlaying one side of the roller to connect and evenly place the EZ 22-SPS ensuring a uniform film thickness.

Finish by extending the roller out to the furthest point of this area and pull back across the surface with light pressure in a straight line to remove roller marks and overlap each pass by 1/2" continuing across the entire section.

Occasionally use the roller cover to remix the filler into the liquid in the paint tray. Ideally every 20 minutes. Continue until the entire area desired is topcoated and allow to cure.

If the appearance is less than unsatisfactory, repeat the finish roll process again until a satisfactory appearance is achieved.

***Brush Application*:** Utilize traditional bristle paint brush application for corners, control joints and other hard to reach places.

***Recoating*:** EZ 22-SPS may be recoated after a minimal cure time of 12 hours, but no longer than 24 hours. After a cure time of 24 hours, abrade the EZ 22-SPS film with a green floor buffing pad or a 150 grit sanding screen before recoating.

COVERAGE: EZ 22-SPS may be applied between 200-300 sq.ft. per gallon (2.5 to 5 mils WFT only) per coat, with 2 coats recommended for optimal aesthetics and performance.

EZ 22-SPS Low Sheen must be applied thin as the final wear surface and requires a primer layer of EZ 22-SPS Gloss. When applying EZ 22-SPS Low Sheen, *DO NOT APPLY thicker than 300-400 sq.ft. per mixed gallon (5 mils WFT) in a single layer to avoid fogging or a blotchy appearance in the film.*

SLIP RESISTANCE: Use of an angular slip-resistant aggregate is recommended in all coatings that may be exposed to wet, oily or greasy conditions as well as any condition where increased traction may be necessary. It is the contractor and end users' responsibility to determine the appropriate traction needs and footwear necessary for the conditions as well as setting performance parameters prior to beginning the application, testing to determine parameters have been met upon completion to achieve the end users documented safety standards.

Mock-ups are highly recommended as part of the evaluation process to determine the appropriate amount of slip-coefficient necessary for the environment.

MAINTENANCE: ***The coating system must be allowed to cure for no less than one week before using any mechanical cleaning equipment on the surface and no less than 3 days before neutral cleaner. This includes auto-scrubbers, swing buffers, sweepers, etc. Only dust and wet mopping may occur the first week.***

Dust mopping, removal of debris and regular cleaning is crucial to maintaining the aesthetics of the coating and obtaining the maximum life span of the floor coating system. Cleaning cannot occur too often and inefficient cleaning will cause the floor to wear out prematurely and possibly stain or discolor depending on what comes in contact with the floor. Spills should be removed quickly. *Avoid the use of Polypropylene or abrasive bristle* (Tynex®) brushes as these brushes will cause the development of scratch patterns and lessen the sheen.

To maximum your investment with proper floor care and maintenance, remove all particles that may scratch and/or dull the floor coating using the least aggressive method necessary to clean the floor.

Daily = Sweep and dust mop or water only mopping/auto-scrubbing; spot clean spills and oils
Weekly or Monthly = Scrubbed once per week or month depending on the amount and type of soils present.

DETERGENT: Always use the least aggressive detergent necessary to remove the residue. A neutral detergent may be used for general purpose cleaning. Use a degreaser, for more degreasing and heavy duty weekly or monthly cleaning.

***Caution*:** Do not drag or drop heavy objects across any floor, including coatings as scratching, gouging or chipping may occur to the concrete or the coating itself. This includes the tip of the forks on a forklift, nails protruding from a pallets, etc.

Avoid spinning tires on a coated floor surface as the heat created from the friction of a spinning tire will quickly soften the coating causing permanent damage.
Should a gouge, chip or scratch occur, touch-up the damaged areas immediately to avoid chemical or water intrusion to the concrete which could create additional damage. A thin layer of clear nail polish to the damaged area will provide some minimal protection until the area can be properly repaired.

Rubber tires are prone to plasticizer migration, especially aviation tires and high performance car tires. Plasticizer will stain coating and commercial flooring leaving an amber, yellow-like stain that can be permanent. This can be more noticeable where aircraft or vehicles are stationary for longer period of time, more so in non-climate controlled environments such as aircraft hangar with lighter colored floors. Some tire stains can be removed is cleaned before a set-in stain occurs using a d-Limonene based degreaser and some mild agitation using an orbital, low speed floor machine.

Warranty: Contact your Laminin representative.