Smith's LEPLEX Masonry Bonding Agent

Product Data Sheet & Application Guide

LEPLEX-PDS-071621

READY-TO-USE WATER-BASED PVA PRIMER WITH BLUE TINT

DESCRIPTION: Smith's LEPLEX is a blue tinted ready-to-use Water-based product used for priming sound, solid and properly prepared concrete, stone, brick, block, plaster, stucco, ceramic tile, marble, granite, wood and more prior to the installation of cementitious products to horizontal, vertical or overhead surfaces either interior or exterior. Smith's LEPLEX can be used as an admixture in certain cementitious products as well.

RECOMMENDED USES:

- Primer for:
  - Concrete Repairs
  - Screeds & Sloping Mortar Applications
  - Concrete Overlayments & Micro-Toppings
  - Plaster & Stucco
- Bonds to:
  - Concrete & Polymer Modified Overlays
  - Terrazzo
  - Stone, Granite & Marble
  - Glass Block
  - Brick
  - Block
  - Plaster
  - Stucco
  - Ceramic & Quarry Tile
  - Wood Subfloors (As a primer over underlayment grade plywood or OSB)

HIGHLIGHTS:

- Ready-to-Use Primer
- Tenacious Bond
- Low Odor & Low VOC's

AVAILABLE KIT SIZES:

SCS-D20-128	1 Gallon Jug
SCS-D20-640	5 Gallon Plastic Pail
SCS-D20-6400	50 Gallon Drum

STORAGE:
Indoors between 50°F (4.4°C) to 85°F (29°C)
**Do not allow liquid product to freeze*

SUBSTRATE SURFACE TEMPERATURE:
40°F (10°C) to 100°F (38°C) with less than 95% Ambient Humidity
**Cooler substrate temperatures will significantly slow the cure rate*

SHELF LIFE: 1 Year in original, unopened containers.
3 months once opened

LIMITATIONS:

- *DO NOT DILUTE / THIN THIS PRODUCT*
- *DO NOT APPLY HEAVY COAT OF PRIMER OVER NON-POROUS SURFACES, such as ceramic tile, Quarry tile, glazed brick or block, glass block, etc.*
- *DO NOT APPLY if rain is expected within 24 hours after application*
- *NOT for Use as a wear surface sealer or cure and seal*
- *DO NOT USE Muriatic / Hydrochloric Acid to prepare concrete as Chloride Contamination may occur*
- *NOT FOR USE in water submersed environments*

CURE TIMES (72°F / 50% Relative Humidity):
**Higher temperatures & humidity will shorten working time.*

Working Time – porous surface	15 to 20 minutes
Working Time – non-porous (tile, glass, etc.)	20 to 25 minutes
Tack Free / Dry to Touch	1 to 2 hours
Recoat Window	up to 7 days (must remain uncontaminated)
Foot Traffic	N/A
Heavy Traffic (Vehicular/Forklift)	N/A

PROPERTIES (Typical Results):

Property	Test Method	Results
Volatile Organic Compounds (VOC'S)	ASTM D3960	15 g/L
Volume Solids (Concentrate)	ASTM D2196	52% to 55%
Viscosity @ 77°F (Concentrate)	ASTM D2196	≤1500 cP
Volume Mix Ratio		Varies
Weight per Gallon		8.9 to 9.1 lbs.

APPROXIMATE COVERAGE:
Varies depending on application, porosity, surface profile
Priming = 200 to 400 sq.ft. per gallon

CLEAN-UP: Soap & water while wet

PERSONAL PROTECTION EQUIPMENT:

- In case of insufficient ventilation, wear suitable respiratory equipment (TC 19C NIOSH/MESA) when spraying
- Wear Chemical Resistant Gloves - Avoid contact with skin, may cause allergic reaction or skin irritation
- Wear Chemical Resistant Eye Protection - Prevent contact with eyes

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TEMPERATURE and HUMIDITY: Substrate temperature, air and materials must be maintained between 40°F (4.4°C) to 100°F (38°C) with less than 95% Ambient Humidity during application.

NOTE: During application in environments using temporary heat, make sure to exhaust emissions and toxic fumes from temporary heaters to the exterior of the building to prevent health hazards and damage to work. Many temporary heating methods emit unburned petroleum into the air which act as a bond breaker once it falls onto the surface of the substrate

- Precautions must be taken when using LP, gasoline, diesel, etc. fueled temporary heat.
- Always shut off temporary heat at least 2 to 3 hours prior to application to reduce risk of airborne petroleum contamination
- Always clean the mechanically prepared surface with *Smith's Oil Clean* or TSP using an auto-scrubber or Pressure Washer followed by a thorough clean water rinse when temporary heat has been in use
- Fisheyes are a result of surface contamination

INSPECT THE SUBSTRATE: Ensure substrate is sound/solid, free of any contaminants that may act as a bond breaker, such as dirt/debris, oil/grease, loose paint/coatings, wax, silicone, etc.

CONTAMINATION OF SUBSTRATE: Concrete is porous and can become contaminated with oils, chemical from spills, etc. which act as a bond breaker. Prior to any product application, determine if a potential bond breaker exists and a proper course of remediation. Contact Smith Paint Products for remedial recommendations while following local regulations regarding contaminant and disposal.

OIL CONTAMINATION: Use *Smith's Oil Clean* to remove oils, *(i.e. petroleum, synthetic & food oils)* from the surface of the concrete prior to mechanical preparation.

CHECK FOR MOISTURE: Smith's LEPLEX will not suppress / reduce moisture vapor transmission in any manner.

Exterior Concrete – Concrete must be hard set, no less than 4 days old (if receiving additional cementitious overlay, etc. only) and may be damp, dry at time of application (no puddles nor standing water)

Interior Concrete – Follow testing manufacturer's instructions precisely or visit www.astm.org, see ASTM F1869 or F2170, to purchase test methods. Testing MUST occur within an acclimated, interior environment for valid/conclusive results. Follow the thresholds for moisture vapor transmission of the finish sealer or coating.

Smith Paint Products is strictly a product manufacturer & does NOT offer any testing or analysis. When in doubt, hire a qualified third party testing firm.

SUBSTRATE PREPARATION: Varies based on application and substrate type.

Preparation for Structural Repair Mortars - Achieve a CSP 3 to 6 *(Concrete Surface Profile in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute)* yielding a surface texture similar to 80 grit sand paper or more course in order to maintain long term adhesion to the substrate.

- ***Steel Shot Blast (Shot size S-230 to S-330 grit recommended):*** Uniformly profile and clean concrete substrates overlapping each pass until white, clean concrete exists. Use magnetic broom to remove excess shot, sweep to remove large debris and vacuum to remove fine dust. *Avoid stationary blasting as micro-cracking the concrete surface may potentially causing future coating delamination*
- ***Scarify:*** Sweep to remove large debris and vacuum to remove fine dust. Scarify to uniformly remove the concrete surface until white. Thoroughly vacuum all dust and debris. *Ideal preparation method for weak concrete surfaces, previously coated floors, adhesive residues or thick build applications greater than ½" average thickness*
- ***Needle Scaler:*** Use to profile small repair areas and remove loose surfaces or existing coatings from hard to reach areas. Thoroughly vacuum to remove all dust / debris or pressure wash

Preparation for Overlays - Achieve a CSP 2 to 5 *(Concrete Surface Profile in accordance with ICRI Guideline 310.2R2013, as published by the International Concrete Repair Institute)* yielding a surface texture similar to 80 grit sand paper or more course in order to maintain long term adhesion to the substrate.

- ***Diamond Grind:*** Use 16 to 25 grit metal bond diamonds or Roller Bush Hammer heads (on concrete substrates only) with an appropriate industrial, weighted head floor grinder to thoroughly profile/remove the substrates surface until uniformly dull & porous. *Shot-blasting or Pressure washing to remove fine dust is highly recommended after diamond grind using a zero degree rotating nozzle at ≥12,000 work units*
- ***Steel Shot Blast*** *(same as stated above)*
- ***Scarify / Planer / Concrete Shaver*** *(same as stated above)*
- ***Etching Compound for porous exterior concrete:*** *Smith's Green Clean Pro* may be to etch bare, exterior concrete with a textured or broom finish that has not been previously sealed. Allow to dwell while remaining wet for 20 to 30 minutes then rinse Smith's Green Clean Pro via pressure washing using a zero degree rotating nozzle at ≥12,000 work units
  (Gallons per Minute X Pressure Washer PSI = work units)

  NOTE: When etching, ensure all Green Clean Pro has been thoroughly removed with potable water with no remaining soapy residue or cement slurry

  - **DO NOT ATTEMPT to use Green Clean Pro on burnished. Power-troweled, smooth, hard trowel-finished concrete substrates, previously sealed / coated / painted surfaces or surfaces containing curing compounds*
  - "Green" - new regular concrete typically requires at least 28 days with an average daily temperature of > 65°F (18.3°C)
  - High Early Strength concrete typically requires 4 to 5 days cure with an average daily temperature of > 65°F (18.3°C)

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AS A PRIMER: *When used as a primer, Smith's LEPLEX is Alkali Resistant thus ensuring tenacious adhesion to the substrate. Additionally, the primer reduces the risk of a substrate absorbing too much of the liquid in cement based products as well as reducing risk of pinholes from occurring.*

BEST PRACTICE TIPS

Porous Substrates

- Use an exploded tip, soft nylon bristle push broom

Non-Porous or Wooden Substrates

- Use a 3/8" non-shed paint roller

Non-Porous with heavy textures (i.e. Quarry tile, etc. with wide grout joints)

- Use a 3/4" Nap, non-shed paint roller

Typical Porous Substrates – Once the substrate is properly prepared, spray apply Smith's LEPLEX or pour out the primer in a ribbon across the substrate then work in evenly, but very thin into the surface using a clean, exploded tip, soft bristle nylon push broom. After 20 to 30 minutes, walk back onto the primed surface, wear cleats, to spread out any puddles using the push broom to massage the primer into the pores evenly. Allow the primer to fully dry to a tack free film, typically 1 to 2 hours at 72°F / 50% humidity, before applying cement-based products over primer. Coverage should yield approximately 200 to 300 sq.ft. per gallon over average porosity absorbent substrates with a mild texture, however, coverage will vary depending on the surface texture and porosity of the substrate.

Highly Porous Substrates – Double priming may be necessary over highly absorbent substrates. When double priming, apply the first layer diluted with 3 parts clean, potable Water to 1 Part Smith's LEPLEX then work into the substrate using a clean exploded tip, soft bristle nylon push broom leaving no puddles. Once the first coat of primer has fully absorbed into the substrate, apply the second coat of Smith's LEPLEX without diluting and reapply using the same method. The first layer may be damp dry prior to applying the second coat of primer. After 20 to 30 minutes, massage any puddles into the surrounding areas using the push broom ensuring an even coat of primer is achieved. Allow the primer to fully dry to a tack free film before applying cement-based products over the primer. Coverage will vary between 75 to 200 sq.ft. per gallon varying heavily depending on the absorbency and texture of the substrate.

Non-Porous Substrates – Once properly prepared and dry, apply Smith's LEPLEX using a non-shed paint roller attached to an extension pole to evenly roller apply Smith's LEPLEX either out of a paint tray or spray apply Smith's LEPLEX then back roll using an appropriate nap thickness to ensure low lying areas of the substrate do not puddle with primer. Coverage will vary depending on surface texture between 275 to 400 sq.ft. per gallon.

NOTE:

******* *DO NOT APPLY A THICK FILM of primer*

******** *DO NOT DILUTE PRIMER over non-porous substrates*

Determining if Primer is Dry –To determine if the primer is dry / ready for the cementitious product application, stand on the primed surface twisting one foot on your toes from side to side. Primer is ready to cover once it is strong enough to remain on the substrate when a shoe twisting doesn't remove the primer.

For best results:

- *DO NOT APPLY primer in direct sunlight and ideally on surfaces with temperatures ranging between 50°F to 90°F with less than 90% Humidity while in a wet state.*
- *DO NOT EXPOSE fresh primer to water for at least 8 to 12 hours after initial application and for 3 days for water submersion*
- *DO NOT USE as a primer for Smith's P.S.L. or similar cement-based overlayments which are to be mechanically polished or exposed to forklift traffic, instead use Smith's Epoxy U100, Epoxy FC125, Epoxy MAC100 or Epoxy MAC125 with a full sand broadcast to prime for forklift and polished overlay applications*

See individual product data sheets for more in-depth details.

MIXING FOR ALL OTHER APPLICATIONS:

Replace up to 1/3 of the typical mix water volume with Smith's LEPLEX and mechanically mix the cementitious product as otherwise stated in its data sheet. Only mix enough Mortar/Plaster/Overlay that can be placed and finished while able to maintain a wet edge between batches. Chill water to extend working time in warmer applications. Warmer temperatures and high humidity will reduce working time.

CLEAN-UP: Clean wet tools, equipment, etc. with soap and water. Once set, residue will need to be removed mechanically grinding or razor shaving. Cured product on tools would require scraping or possibly the use of a soldiering torch (MAP gas) to overheat the material for easier scraping from metal tools.

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