ENVIROLASTIC® AL450 SS

PART A B81V3700 — **ISOCYANATE**
PART B B81-3700 — **SERIES**

PRODUCT INFORMATION

Revised 5/05

PRODUCT DESCRIPTION

ENVIROLASTIC AL450 SS is a 100% solids, slow setting, spray applied, aliphatic polyurea coating system, which exhibits extraordinary toughness and elastomeric performance characteristics. AL450 SS can be applied at thicknesses of 30-250 mils or greater in multiple passes during a single application. As an aliphatic polyurea it is color fast and will resist yellowing.

- Relatively slow gel time allows for smooth applications
- No VOCs and low odor
- Seamless and flexible
- Bridges moving cracks to 1/8"
- Retains physical properties at -20°F to 250°F

RECOMMENDED USES

Designed for use as a smooth seamless floor, wall, and ceiling coating system for interiors and a roof and wall coating system for exterior applications. Ideally suited for use in various facilities, including:

- Food and beverage handling and processing
- Pharmaceutical clean rooms and processing areas
- Hospital labs, operating and emergency areas
- Metal, concrete, wood, and foam roofing
- Institutional cafeteria, shower, gymnasium areas
- Bridge coatings
- Playgrounds
- Commercial and industrial exterior structure applications
- Acceptable for use in USDA inspected facilities

PRODUCT CHARACTERISTICS

Finish: Gloss

Color: White, Light Gray, Medium Gray, Dark Gray, Black, Beige, Tile Red Silver Mettalic, Caribbean Green

Volume Solids: 100%

VOC (calculated): 0

Mix Ratio: 1:1

Recommended Spreading Rate per application:

Wet mils:	30.0 - 250.0
Dry mils:	30.0 - 250.0
Coverage:	6 - 53 sq ft/gal approximate

Drying Schedule @ 30.0 mils wet @ 73°F and 50% RH:

To touch:	3 minutes
To recoat:	
minimum:	3 minutes
maximum:	16 hours
Gel time:	45 seconds
Tack free:	3 minutes
Light traffic:	2 hours
To cure:	24 hours

If maximum recoat time is exceeded, abrade surface and solvent wipe before recoating. Drying time is temperature, humidity, and film thickness dependent.

Pot Life: None

Sweat-in Time: None

Viscosity (mixed): 550 cps

Flash Point: >200°F

Shelf Life: 12 months
Store indoors at 70°F to 90°F.

Reducer: Not recommended

Clean Up: Butyl Cellusolve™ (R6K25) or Dowanol PM™

PERFORMANCE CHARACTERISTICS

Abrasion Resistance
Method: ASTM D4060
Result: 1000 g 1000 cycles CS-17: 6 mg loss
1000 g 1000 cycles H-18: 230 mg loss

Adhesion
Method: ASTM D4541
Result: Concrete - 350 psi; Steel - 1,750 psi, Wood 250 psi

Coefficient of Linear Thermal Expansion
Method: ASTM C531 (in/in/°F)
Result: 4×10^{-5}

Crack Bridging (@ -26°C (-15°F) @ 1/8")
Method: ASTM C836
Result: Pass

Durometer Hardness
Method: ASTM D2240
Result: Shore D-47

Gardner Impact
Method: ASTM D2794 (1/32" steel panels)
Result: >160 in-lbs, direct and indirect

Mandrel Bend
Method: ASTM D522 Conical Bend (1/32" steel panel)
Result: Pass

Tear Strength
Method: ASTM D624
Result: 450 pli

Tensile Elongation
Method: ASTM D638
Result: 450%

Tensile Modulus
Method: ASTM D638
Result: 100% Modulus - 1,140 psi
300% Modulus - 1,485 psi

Tensile Strength
Method: ASTM D638
Result: 2,200 psi

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PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel (coating):
1 ct. EnviroLastic AL450 SS @ 60.0 - 80.0 mils dft

Steel, with hold primer (coating):
1 ct. Copoxy Shop Primer @ 1.0 -1.5 mils dft**
1 ct. EnviroLastic AL450 SS @ 60.0 - 80.0 mils dft

Concrete (coating):
1 ct. Corobond HS Epoxy Primer @ 3.0 - 4.0 mils dft**
1 ct. EnviroLastic AL450 SS @ 60.0 - 80.0 mils dft*

Concrete, low temperature or fast set (coating):
1 ct. Corobond LT Epoxy Primer@ 4.0 - 8.0 mils dft**
1 ct. EnviroLastic AL450 SS @ 60.0 - 80.0 mils dft

** Refer to Performance Tips section

The systems listed above are representative of the product's use. Other systems may be appropriate.

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Refer to product Application Bulletin for detailed surface preparation information.

Minimum recommended surface preparation:
Steel:
Atmospheric: SSPC-SP10/NACE 2, 3mil profile

Concrete & Masonry:
SSPC-SP13/NACE 6 or ICRI 03732, CSP 3-5.

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:
Material: 150°F minimum, 170°F maximum
Air and surface: -20°F minimum, 120°F maximum
At least 5°F above dew point

Relative humidity: 80% maximum

Refer to product Application Bulletin for detailed application information.

ORDERING INFORMATION

Packaging:
Part A: 53 gallon drums
Part B: 53 gallon drums

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

DISCLAIMER

WARRANTY

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APPLICATION BULLETIN

Revised 5/05

SURFACE PREPARATION

Surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion.

Iron & Steel (atmospheric service)
Remove all oil and grease from surface by Solvent Cleaning per SSPC-SP1. Minimum surface preparation is Near White Metal Blast Cleaning per SSPC-SP10/NACE 2. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (3 mils).Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

Poured Concrete
New
For surface preparation, refer to SSPC-SP13/NACE 6, or ICRI 03732, CSP 3-5. Surface must be clean, dry, sound, and offer sufficient profile to achieve adequate adhesion. Minimum substrate cure is 28 days at 73°F. Remove all form release agents, curing compounds, salts, efflorescence, laitance, and other foreign matter by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. Refer to ASTM D4260. Rinse thoroughly to achieve a final pH between 8.0 and 11.0. Allow to dry thoroughly prior to coating.
Old
Surface preparation is done in much the same manner as new concrete; however, if the concrete is contaminated with oils, grease, chemicals, etc., they must be removed by cleaning with a strong detergent. Refer to ASTM D4258. Form release agents, hardeners, etc. must be removed by sandblasting, shotblasting, mechanical scarification, or suitable chemical means. If surface deterioration presents an unacceptably rough surface, Steel-Seam VSE epoxy filler is recommended to patch and resurface damaged concrete.
Fill all cracks, voids and bugholes with Steel-Seam VSE.

Always follow the standard methods listed below:
ASTM D4258 Standard Practice for Cleaning Concrete.
ASTM D4259 Standard Practice for Abrading Concrete.
ASTM D4260 Standard Practice for Etching Concrete.
ASTM F 1869 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete.
ICRI 03732 Concrete Surface Preparation

APPLICATION CONDITIONS

Temperature:	
Material:	150°F minimum, 170°F maximum
Air and surface:	-20°F minimum, 120°F maximum At least 5°F above dew point
Relative humidity:	80% maximum

APPLICATION EQUIPMENT

The following is a guide. Changes in pressures and tip sizes may be needed for proper spray characteristics. Always purge spray equipment before use with listed reducer. Any reduction must be compliant with existing VOC regulations and compatible with the existing environmental and application conditions.

Reducer ..... Not recommended

Clean-up ..... Butyl Cellusolve™ (R6K25) or Dowanol PM™

Plural Component Heated Spray Equipment:

Equipment	Gusmer H-20/35
Gun	GX7 DI,GX7-400, or GX-8
Fluid Pressure	2,200 psi
Air Pressure	100 psi
Inlet Strainer Screen	30 mesh
Gun Screen	80 mesh

If specific application equipment is not listed above, equivalent equipment may be substituted.

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APPLICATION BULLETIN

APPLICATION PROCEDURES

Surface preparation must be completed as indicated. Route and seal all cracks greater than 1/16" with EnviroLastic JS80 SL.

Mixing Instructions:
Agitate resin blend (B) component thoroughly with a drum mixer before use to disperse pigment and assure homogeneity. Do not thin. Do not mix "A" and "B" resins together. **Caution: Do not agitate in air and moisture.**

Apply coating at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per application:

Wet mils:	30.0 - 250.0
Dry mils:	30.0 - 250.0
Coverage:	6 - 53 sq ft/gal approximate

Drying Schedule @ 30.0 mils wet @ 73°F and 50% RH:

To touch:	3 minutes
To recoat:	
minimum:	3 minutes
maximum:	16 hours
Gel time:	45 seconds
Tack free:	3 minutes
Light traffic:	2 hours
To cure:	24 hours

If maximum recoat time is exceeded, abrade surface and solvent wipe before recoating. Drying time is temperature, humidity, and film thickness dependent.

Pot Life: None

Sweat-in Time: None

Application of coating above maximum or below minimum recommended spreading rate may adversely affect coating performance.

PERFORMANCE TIPS

For concrete, always perform Calcium Chloride test as per ASTM F1869. Do not proceed with MVE >3 lbs.

**Where primers are used, do not fill the profile on concrete or steel with excess primer. Topcoat epoxy primers immediately after they become take free. "Tack free" is defined as slight to medium pressure with a gloved hand, placed on a primed surface, that when lifted shows a slight imprint or distortion to the surface, with no transfer of primer to the glove.

For steel, stripe coat all chine, welds, bolted connections, and sharp angles to prevent early failure in these areas. For concrete, all cracks must receive a 6" wide by 30 mil dft detail coat.

Use only heated, plural component equipment capable of producting 2,500 psi at 160°F and 2 gallon/minute output consistently.

In order to avoid blockage of spray equipment, clean equipment before use or before periods of extended downtime with Butyl Cellusolve™ (R6K25), Dowanol PM™, or Propylene Glycol.

While spraying, use a 50% overlap with each pass of the gun to avoid holidays, bare areas, and pinholes. If necessary, cross spray at a right angle.

Spreading rates are calculated on volume solids and do not include an application loss factor due to surface profile, roughness or porosity of the surface, skill and technique of the applicator, method of application, various surface irregularities, material lost during mixing, spillage, overthinning, climatic conditions, and excessive film build.

Do not agitate in air and moisture.

Consult your Sherwin-Williams representative for specific application and performance recommendations.

Refer to Product Information sheet for additional performance characteristics and properties.

CLEAN UP INSTRUCTIONS

Clean spills and spatters immediately with Butyl Cellusolve™ (R6K25) or Dowanol PM™. Clean tools and equipment immediately after use (including both "A" and"B" sides of plural component spray system) with Butyl Cellusolve™ (R6K25) or Dowanol PM™.

SAFETY PRECAUTIONS

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DISCLAIMER

The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Information and Application Bulletin.

WARRANTY

The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.