THE SHERWIN-WILLIAMS COMPANY

INDUSTRIAL & MARINE COATINGS

ControlTech
Tank Linings, Containment & Corrosion Control Coatings

TRM.81

ENVIROLASTIC® AR530 BRUSH GRADE

PART A **B81V4100** **ISOCYANATE**
PART B **B81-4100** **SERIES**

PRODUCT INFORMATION

Revised 11/04

PRODUCT DESCRIPTION

ENVIROLASTIC AR530 BRUSH GRADE is a 100% solids, fluid applied polyurea elastomer repair material that is based on proprietary polyurea formulation and a modified amine curing mechanism. It can be applied at thicknesses of 30 - 250 mils in consecutive multiple applications.

- Fast cure short downtime
- No VOCs and low odor
- Seamless flexible and waterproof
- Bridges moving cracks to 1/8"
- Retains physical properties at -20°F to 250°F
- Acceptable for use in USDA inspected facilities

RECOMMENDED USES

Designed for use as a repair material for polyurea coatings and linings in immersion and atmospheric applications.

Ideally suited for use on systems such as:

- Tank linings
- Secondary containment
- Hopper and tank car linings
- Waterproof deck coatings
- Industrial floor and walls

PRODUCT CHARACTERISTICS

Finish: Semi-Gloss

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

Volume Solids: 100%

VOC (calculated): 0

Mix Ratio: 1:1

Recommended Spreading Rate per coat:

Wet mils:	10.0 - 15.0
Dry mils:	10.0 - 15.0
Coverage:	100 - 160 sq ft/gal approximate

Note: Multiple coats are typically required.

Drying Schedule @ 15.0 mils wet @ 73°F and 50% RH:

To touch:	20 minutes
To recoat:	
minimum:	20 minutes
maximum:	16 hours
Gel time:	5 minutes
Tack free:	20 minutes
Light traffic:	1 hour
Vehicular 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: 3 - 5 minutes

Sweat-in Time: None

Viscosity (mixed): 300 cps

Flash Point: 200°F

Shelf Life: 12 months, unopened
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: 5 mg loss

Adhesion
Method: ASTM D4541
Result: Concrete - 350 psi; Steel - 850 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-50

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: 525 pli

Tensile Elongation
Method: ASTM D638
Result: 530%

Tensile Modulus
Method: ASTM D638
Result: 100% Modulus - 1,400 psi
300% Modulus - 1,800 psi

Tensile Strength
Method: ASTM D638
Result: 2,440 psi

Water Vapor Transmission
Method: ASTM E96
Result: 0.02 perm

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COVER THE EARTH

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PRODUCT INFORMATION

RECOMMENDED SYSTEMS

Steel:

EnviroLastic AR530 Brush Grade
@ 10.0 - 15.0 mils dft/ct*

Concrete, low temperature or fast set:

1 ct. Corobond LT Epoxy Primer @ 4.0 - 8.0 mils dft
EnviroLastic AR530 Brush Grade
@ 10.0 - 15.0 mils dft/ct*

*Number of coats depends on depth of repair.

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, 2 mil profile
Immersion:	SSPC-SP10/NACE 2, 3 mil profile

Concrete & Masonry:

Sandblast or shotblast to remove all laitance and achieve a profile equal to 80-100 grit sandpaper. Refer to SSPC-SP13/NACE 6 or ICRI Guide 03732.

TINTING

Do not tint.

APPLICATION CONDITIONS

Temperature:

Material:	60°F minimum, 120°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:	5 gallons
Part B:	5 gallons

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.

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TRM.81A

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PART A **B81V4100** **ISOCYANATE**
PART B **B81-4100** **SERIES**

APPLICATION BULLETIN

Revised 11/04

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 (immersion 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. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (3 mils). Remove all weld spatter and round all sharp edges by grinding to a minimum 1/4" radius. Prime any bare steel the same day as it is cleaned or before flash rusting occurs.

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. Blast clean all surfaces using a sharp, angular abrasive for optimum surface profile (2 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. 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 10.0 and 13.0. 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 ASTM 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

Immersion Service:

In addition to the above surface preparation, Brush Blasting of the concrete surface is required.

APPLICATION CONDITIONS

Temperature:	
Material:	60°F minimum, 120°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. Always purge dispensing 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 Dual Feed Metering Equipment:
Equipment. ..... AST GMP-075 "Big Pro"
Static mixer ..... 1/2" dia, 32 element
Reduction ..... Not recommended

Plural Component Air Powered Caulk Guns:
Static mixer ..... 1/2" dia, 32 element
Reduction ..... Not recommended

If specific application equipment is 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 >1/16" with EnviroLastic JS80 SL.

Mixing Instructions:
For small repair areas,combine one Part B resin to one Part A ISO for each 1 pint batch. Do not pre-mix either component. Always add the Part B resin to the Part A ISO. Mix with margin trowel for 15 to 30 seconds until uniform. For large repair areas use plural component equipment.

Apply brush grade repair material at the recommended film thickness and spreading rate as indicated below:

Recommended Spreading Rate per coat:

Wet mils:	10.0 - 15.0
Dry mils:	10.0 - 15.0
Coverage:	100 - 160 sq ft/gal approximate

Note: Multiple coats are typically required.

Drying Schedule @ 15.0 mils wet @ 73°F and 50% RH:

To touch:	20 minutes
To recoat:	
minimum:	20 minutes
maximum:	16 hours
Gel time:	5 minutes
Tack free:	20 minutes
Light traffic:	1 hour
Vehicular 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: 3 - 5 minutes

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.

For immersion applications, a minimum total dry film thickness of 60 mils is required. Always apply lining material in at least four applications. Spark test in accordance with ASTM D5162 for steel or ASTM D4787 for concrete after application of the second coat. Repair holidays found prior to application of final coat.

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.

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.

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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