

# ESSENTIAL R5181

## SELF CROSS-LINKING ACRYLIC EMULSION

R5181 is a self cross-linking acrylic polymer that can be formulated into < 100 g/l cure and seals that passes ASTM C309. When formulated properly the sealer exhibits excellent wet adhesion properties, is non-blushing, non-yellowing, and shows excellent chemical and stain resistance properties.

### KEY BENEFITS

- Passes ASTM C309
- < 100 g/l sealers
- Non-blushing
- Wet adhesion to concrete

**DISCLAIMER:** The information and recommendations contained herein are based on data believed to be correct. The information is offered solely for the customer's consideration, investigation and verification because of numerous factors beyond our control affecting the results of the use of products, Essential Industries, INC. makes no warranty of any kind, expressed or implied, including those of merchantability and fitness for a particular purpose, other than that the product conforms to its applicable current standard specification. The manufacturer's only obligation shall be to replace such quantity of the product proven to be defective.

### TYPICAL PROPERTIES\*

Appearance .....	Translucent White
pH.....	7.8
Solids, % by Weight .....	40.0
Viscosity, cps @ 25°C .....	< 300
Density, lbs/gal .....	8.8
% VOC .....	0
Tg °C .....	20
Acid Number .....	40
Freeze/Thaw Stability .....	Fails
Konig Hardness (secs).....	143

\*These values should not be interpreted as specifications.



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# ESSENTIAL R5181

Self Cross-Linking Acrylic Emulsion

## Starting Point Formulation – ALS056-A

<u>Materials</u>	<u>Pounds</u>
Essential R5181	582.10
Dynol 604	2.50
Pre-blend water and solvent, then add.	
Water	395.10
Dowanol PPH	17.30
BYK 028	3.00
<b>Total:</b>	<b>1000.00</b>

## Formulation Attributes

Solids, % by weight .....	25
pH.....	8.0
Viscosity (CPS) .....	< 50
VOC(g/L).....	97.7
Wt/gal .....	8.56

## Performance Information

Passes ASTM C309

Test performed on CRS panels (1-mil dry).

	<u>R5181</u>	<u>Competitive Polymer</u>	<u>Commercial Sealer</u>
Konig Hardness			
1 day cure	121	103	49
7 day cure	143	102	55
VOC content	< 100 g/l	< 250 g/l	< 100 g/l

## Chemical Resistance Properties

1 Hour Test, 1 Hour Recovery

10W30 Synthetic Oil .....	No Effect
10W30 Motor Oil .....	No Effect
Silicone Brake Fluid .....	No Effect
Kerosene .....	No Effect
Coke .....	No Effect

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## Self Cross-Linking Acrylic Emulsion

### Chemical Resistance Properties (cont.)

Tested after 7 days, 1 Hour Test, 1 Hour Recovery

Automatic Transmission Fluid .....	No Effect
Vinegar .....	No Effect
90 Weight Gear Oil .....	No Effect
Gasoline.....	No Effect
Diesel Fuel .....	No Effect
Hydraulic Fluid .....	No Effect
Windshield Fluid .....	Slight softening, recovers
1:1 Ethylene Glycol/Water .....	Slight softening, recovers
E85 (85% Ethanol: 15% Gasoline) .....	Slight softening, recovers

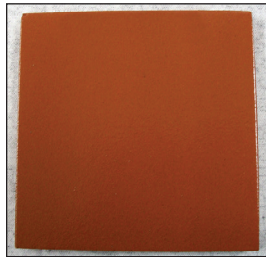
### Water Resistance Testing – Comparative Study

Procedure – 2 coats of sealer are applied to a red quarry tile. The coats are allowed to dry for 2 hours. After the second coat is dried the tile is partially submerged into water for 16 hours.

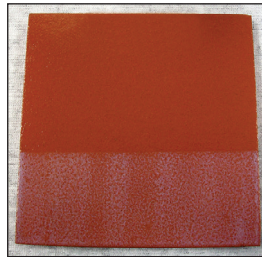
The pictures below show the results. As you can see R5181/ALS056-A compares very favorably to the typical solvent-based wet look sealer and outperforms an existing commercially available water-based sealer.



Solvent-based  
wet look sealer



R5181/ALS056-A



Water-based sealer

### Supplier Information

<u>Product</u>	<u>Description</u>	<u>Supplier</u>
Dynol 604	Leveling agent	AirProducts
BYK 028	Defoamer	Altana - BYK