

# ESSENTIAL R5181

## SELF CROSS-LINKING ACRYLIC EMULSION

Essential R5181 is a self cross-linking acrylic polymer that can be formulated into <100 g/l concrete sealers. When formulated properly the finish exhibits excellent wet adhesion properties, is non-blushing, non-yellowing and shows excellent chemical and stain resistant properties.

Can be formulated into interior and exterior wet look sealers.

### KEY BENEFITS

- Wet adhesion properties
- Resistant to acids, bases and stains
- Low VOC's
- Non-blushing
- Non-yellowing
- Excellent water resistance

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### TYPICAL PROPERTIES\*

Appearance .....	Translucent
Tg .....	15°C
Acid Number .....	40
pH.....	7.8
Solids, % by Weight .....	42.0
Solids, % by Volume .....	40.0
Viscosity, cP @ 25°C .....	< 300
Density, Lbs./Gal.....	8.76
VOC Level (As Supplied)	
Lbs./Gal. ....	0.0
G/L.....	3.5

\*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.

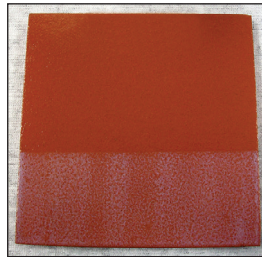
The pictures below show the results. As you can see R5181/ALS056-A compares very favorably to the typical solvent-based wet look sealer and outperforms an existing commercially available water-based sealer.



Solvent-based  
wet look sealer



R5181/ALS056-A



Water-based sealer

## Supplier Information

### Product

Dynol 604  
BYK 028

### Description

Leveling agent  
Defoamer

### Supplier

AirProducts  
Altana - BYK