

ESSENTIAL R5194

SELF CROSS-LINKING ACRYLIC EMULSION

R5194 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

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
Tg	60°C
Acid Number	40
pH	7.8
Solids, % by Weight	38.0
Solids, % by Volume	36.2
Viscosity, cP @ 25°C	< 300
Density, Lbs./Gal.	8.75
VOC Level (As Supplied)	
Lbs./Gal.....	0.1
G/L	5.6

**These values should not be interpreted as specifications.*



The Spark of Innovation

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Starting Point Formulation - EPY188

<u>Materials</u>	<u>Pounds</u>
R5194	604.20
Premix ingredients:	
Water	274.30
Dipropylene Glycol Monomethyl Ether	8.20
Diethylene Glycol Monoethyl Ether	4.60
Tego® Foamex 825	4.90
Add slowly with good agitation:	
Tributoxyethyl Phosphate	33.60
BenzoFlex® 181	7.10
BenzoFlex® LC 531	33.60
Add wax emulsion after mixture is homogeneous:	
40% emulsion of E43 (nonionic)	10.00
30% emulsion of PED 191 (nonionic)	18.90
Kathon® LX	0.20
Capstone® FS65	0.40
	1000.00

Formulation Attributes

Solids, % by weight	30.0
pH	8.2
Viscosity (CPS)	20
VOC (g/l)	< 100
Wt/gal	8.73

Performance Information

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

	<u>R5194</u>	<u>Competitive Polymer</u>	<u>Commercial Sealer</u>
Konig Hardness			
1 day cure	61	103	49
7 day cure	60	102	55
VOC content	< 100 g/l	< 250 g/l	< 100g/l



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Performance Information

CROSS-HATCH ADHESION

Test performed on Concrete tiles after a 7 day Dry (2 Coats, 1-mil Dry per Coat).

	<u>R5194</u>	<u>Competitive Polymer</u>	<u>Commercial Sealer</u>
Dry	5B	5B	5B
After 1-hour spot test w/ water	4 – 5B	0 – 1B	0 – 1B

FLOOR TRIAL - COMPARATIVE STUDY

Two coats of the following products were applied to a concrete floor in a warehouse.

- Competitive polymer
- Commercial Sealer
- R5194 - EPY188

The coating experienced foot, fork lift and pallet jack traffic. The floor was only maintained by daily sweeping. The photos below show the wear and tear on the coatings after 9 months of traffic.

9 MONTHS OF TRAFFIC

Competitive polymer Commercial sealer



R5194 - EPY188



HOT TIRE PICK-UP:

Concrete floor in the warehouse was cleaned with a degreaser. The floor was coated and allowed to cure. A vehicle was run on highways for thirty minutes, then parked on the coated floor.

Results: There was no visible failure to the coating - adhesion or black marking.



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Chemical Resistance Properties

1 Hour Test, 1 Hour Recovery

10W30 Synthetic Oil	No Effect	Diesel Fuel	No Effect
10W30 Motor Oil	No Effect	Hydraulic Fluid	No Effect
Silicone Brake Fluid	No Effect	Windshield Fluid	Slight softening, recovers
Kerosene	No Effect	1:1 Ethylene Glycol/Water	Slight softening, recovers
Coke	No Effect	E85 (85% Ethanol:15% Gasoline)	Slight softening, recovers
Automatic Transmission Fluid	No Effect		
Vinegar	No Effect		
90 Weight Gear Oil	No Effect		
Gasoline	No Effect		

Water Resistance Properties - Comparative Study

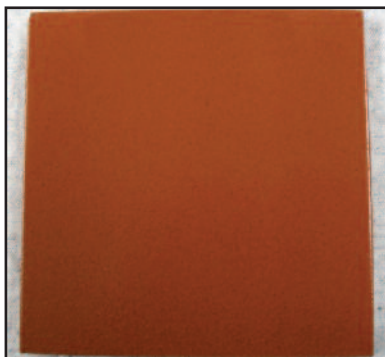
Procedure – 2 coats of sealer are applied to a red quarry tile. The coats are allowed to dry for 2 hours. After the second coat is dried the tile is partially submersed into water for 16 hours.

The pictures below show the results. As you can see R5194/EPY188 compares very favorably to the typical solvent-based wet look sealer and out performs an existing commercially available water-based sealer.

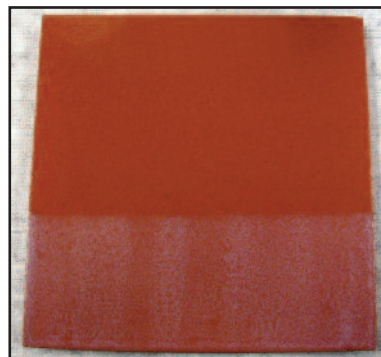
Solvent-based wet look sealer



R5194/EPY188



Water-based sealer



Supplier Information

Product

Tego® Foamex 825
Benzoflex® 181
Benzoflex® LC 531
E43
PED 191
Kathon® LX
Capstone® FS65

Description

Defoamer
Solvent
Solvent
Polypropylene wax
Polyethylene wax
Preservative
Leveling agent

Supplier

Evonik Industries
Eastman
Eastman
Eastman
Clariant
Dow Chemical
DuPont



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