ESSENTIAL R5191

SELF CROSS-LINKING ACRYLIC EMULSION

Essential R5191 is a self cross-linking acrylic polymer that can be formulated into <50 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
- Formulate to < 50 g/l
- Non-blushing
- Compares favorably with solvent-based acrylic system
- Excellent water resistance
- Passes ASTM C309

TYPICAL PROPERTIES*

Appearance	Translucent
Tg	6°C
Acid Number	40
Solids, % by Weight	41
Viscosity, cP @ 25°C	200
Density, Lbs./Gal.	8.70
VOC Level (As Supplied)	
Lbs./Gal.	0.0
G/L	2.3

*These values should not be interpreted as specifications.

Essential® Polymers

The Spark of Innovation

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ESSENTIAL R5191

Self-Cross-Linking Acrylic Emulsion

Starting Point Formulation – ALW063

Materials	Pounds
Essential R5191	608.00
Dynol 604	2.90
Pre-blend water and solvent, then add.	
Water	344.80
PPH	7.90
BYK 028	0.50
Capstone FS-65	1.00
Total:	**1000.00**

Formulation Attributes

Solids, % by weight	25
pH	7.95
Viscosity (CPS)	<50
VOC(g/L)	46.1
Wt/gal	8.49

Performance Information

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

Konig Hardness (seconds):	**1 day** - 31	**7 day** - 47
Cross Hatch Adhesion (7 Day):	**Dry** - 5B	**Wet** - 4B

Supplier Information

Product	Description	Supplier
Dynol 604	Leveling agent	AirProducts
Tego Foamex 825	Defoamer	Evonik

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Self-Cross-Linking Acrylic Emulsion

Stain & Chemical Resistance Properties

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

Stain Testing

Coffee	No Effect
Red Wine	No Effect
Ketch-up	No Effect
Mustard	Slight Yellowing/Recovers
Iodine 7.5%	No Effect

Chemical Testing

Water	No Effect
Motor Oil	No Effect
NaOH 10%	Slight Softening/Recovers
NaCl 10%	No Effect
$CaCl_2$ 10%	No Effect
TSP 3%	Moderate Softening/Recovers
Ammonia 10%	Slight Softening/Recovers
HCl 5%	No Effect
Brake fluid	No Effect
EtOH 50%	Moderate Softening/Recovers
Gas	Slight Softening/Recovers
Skydrol	Moderate Darkening & Softening/Does Not Recover

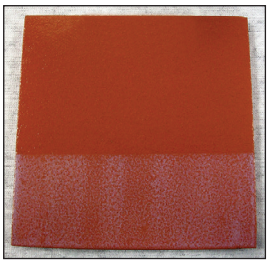
Water Resistance Testing – Comparative Study

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 submersed into water for 16 hours.

The pictures below show the results. As you can see R5191/ALW063 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

R5191/ALW063



Water-based sealer