

ESSENTIAL R6010

SELF CROSS-LINKING WATERBORNE ACRYLIC/URETHANE POLYMER

Essential R6010 can be formulated into topcoats for wood flooring and furniture.

R6010 can be formulated to pass MFMA criteria for water-based wood finishes. Essential R6010 has exceptional durability, chemical, mar and scuff resistance that rivals typical solvent-borne oil-modified urethanes.

R6010 formulations can pass the boiling water/ceramic mug test, so it is an ideal candidate as a wood furniture topcoat for industrial applications or the DIY market.

Essential R6010 offers the ability to formulate coatings to less than 250 g/l VOC.

KEY BENEFITS

- One package, self cross-linking
- Exceptional chemical resistance
- Outstanding mar and scuff resistance
- Excellent water resistance
- Hot tire pick-up resistance

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	Off-White Emulsion
pH	8.0
Solids, % by Weight.....	34.0
Solids, % by Volume	31.7
Viscosity, cP @ 25°C -	
Brookfield, LV2, 60rpm	25
Density, Lbs./Gal.	8.7
VOC Level (As Supplied)	
Lbs./Gal.....	1.04
G/L	125
MFFT, °C	23
Freeze/Thaw Stable	Passes 3 Cycles

*These values should not be interpreted as specifications.



The Spark of Innovation

Visit us on the web at
www.essentialpolymers.com

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Starting Point Formulations

Essential R6010 – Gloss Formulation

<u>MATERIALS</u>	<u>POUNDS</u>	<u>GALLONS</u>
ESSENTIAL R6010	761.8	87.36
Premix Next Five Items:		
Water	40.0	4.80
Dowanol® DPM	27.0	3.40
Dowanol® DPnB	27.0	3.57
Tego® Foamex 800	4.5	0.52
Acrysol® RM-825	<u>3.0</u>	<u>0.35</u>
	863.3	100.00

Essential R6010 – Semi-Gloss Formulation

<u>MATERIALS</u>	<u>POUNDS</u>	<u>GALLONS</u>
ESSENTIAL R6010	750.0	86.01
Water	48.5	5.82
Dowanol® DPM	27.0	3.40
Dowanol® DPnB	27.0	3.57
Acematt® TS-100	4.0	0.22
Tego® Foamex 800	4.5	0.52
Acrysol® RM-825	<u>4.0</u>	<u>0.46</u>
	865.0	100.00

Formulation Attributes

Solids, % by Weight	30.2
Solids, % by Volume	27.6
Viscosity, Seconds (Zahn Cup#2)	30
pH	8.0
Density	8.6
Calculated VOC (Excluding Water)	
Lbs./Gal.	2.25
G/L	269



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Performance Information

All tests were performed on coatings kept at 77°F and 50% RH for seven days.

Tensile Strength, PSI 1600
Elongation at Break, % 200

Tests Performed on Aluminum Panels (1-Mil Dry Films)

Konig Hardness (Seconds) 1 Day, 7 Day 54, 83
Grit Feed Taber Abrasion (Mg Loss, 500 Cycles, 1000g)..... 28

Tests Performed on Maple Veneer (3 Coats, 1-Mil Dry Per Coat)

1 Hour Covered Spot Test

Water No Effect
Soda No Effect
Beer No Effect
Formula 409 Slight Film Damage
100% Ethanol Softening, Full Recovery
50% Ethanol Slight Softening, Full Recovery
70% Isopropyl Alcohol Softening, Full Recovery

Test performed on Oak panel (3 coats, 1 Mil Dry Per Coat). Water at 100°C is dripped on panel and ceramic coffee mug containing water initially at 100°C is placed on top of water spot for 20 minutes.

Boiling Water/Hot Ceramic Mug No visual damage

Supplier Information

Product

Essential R6010
Acrysol® RM -825
Dowanol® DPM
Dowanol® DPnB
Tego® Foamex 800
Acematt® TS-100

Description

Polyurethane Dispersion
Thickener
Solvent
Solvent
Defoamer
Matting Agent

Supplier

Essential Polymers
Dow Chemical
Dow Chemical
Dow Chemical
Evonik Industries
Degussa



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