

# ESSENTIAL R6030

## SELF-CROSS-LINKING WATERBORNE URETHANE/ACRYLIC

### DESCRIPTION

Essential R6030 is an n-MP free self-cross-linking urethane/acrylic polymer which can be formulated into Prop 65 compliant coatings for wood and concrete. The polycarbonate back bone on the PUD gives this product exceptional mar and scuff resistant properties. The self-cross-linking nature of the polymer gives the system outstanding stain and chemical resistance properties. It also shows no signs of blushing when exposed to water for 24 hours.

The low VOC content of the polymer will enable chemists to formulate < 50 g/l coatings.

### KEY BENEFITS

- N-MP Free
- Formulate <50 G/L Coatings
- Chemical Resistance
- Outstanding Mar and Scuff Resistance
- Non-Blushing

### TYPICAL PROPERTIES\*

Appearance	Off-White Emulsion
pH	7.8
Solids, % by Weight	37.0
Solids, % by Volume	34.1
Viscosity, cP @ 250C	<25°
Density, Lbs./Gal.	8.7
VOC Level (As Supplied)	
Lbs./Gal.	< 0.40
G/L	50

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

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## STARTING POINT FORMULATIONS

### Essential R6030 Gloss Formulation

<u>MATERIALS</u>	<u>POUNDS</u>	<u>GALLONS</u>
ESSENTIAL R6030	685.0	78.7
Water	133.4	16.1
Tego® 820	1.5	0.17
Zonyl® FSO	0.15	0.013
ESSENTIAL R2083	40.8	4.9
	<b>860.8</b>	<b>100.00</b>
<b>Formulation Attributes:</b>		
Solids, % by Weight	31%	
Solids, % by Volume	28.7	
Viscosity	< 50 CPS	
pH	7.6	
Density	8.62	
Calculated VOC (Excluding Water)		
Lbs./Gal.	< 0.4	
G/L	< 48	

## PERFORMANCE INFORMATION

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

Tensile Strength, PSI	3200
Elongation at Break, %	90

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

Konig Hardness (Seconds) 1 Day, 7 Day	45, 45
Impact Resistance (Direct & Indirect)	Passes 160 in/lbs.
Taber abrasion, CS-IOF wheels (Mg lost, 500 cycles, 1000g)	30mg lost

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
Gasoline	Slight Softening, Full Recovery
Motor Oil	No Effect
Transmission Fluid	No Effect
Bleach (12.5%)	No Effect

## SUPPLIER INFORMATION

<u>Product</u>	<u>Description</u>	<u>Supplier</u>
Essential R6030	Urethane/Acrylic Emulsion	Essential Industries
Tego® 820	Defoamer	Tego
Essential R2083	Polyethylene Emulsion	Essential Industries
Zonyl® FSO	Leveling Agent	DuPont