

# ESSENTIAL R4400

## HYDROXYL-FUNCTIONAL URETHANE/ACRYLIC HYBRID

Essential R4400 is a solvent-free, low VOC, OH-functional urethane acrylic hybrid perfectly suited for formulating into 2-component coatings for wood and concrete. Once properly cross-linked with a trimer; such as, Easaqua 803 or Easaqua XL-600, this coating has superior chemical resistance and unsurpassed mar and scratch resistance properties.

### KEY BENEFITS

- Hydroxyl-functionality
- Skydrol resistant
- Outstanding mar resistance
- UV-Stable

**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
pH .....	8.0
Solids, % by Weight.....	32.5
Viscosity, cP @ 25°C .....	< 200 cps
Density, Lbs./Gal. ....	8.75
VOC Level (As Supplied)	
Lbs./Gal.....	0.4
G/L .....	48.3
Particle Charge .....	Anionic
Acid Number .....	16
Hydroxyl Number .....	15

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



**Essential<sup>TM</sup>  
Polymers**

**The Spark of Innovation**

Visit us on the web at  
[www.essentialpolymers.com](http://www.essentialpolymers.com)

28391 Essential Road • P.O. Box 12  
Merton, WI 53056-0012  
(262) 538-0091 • FAX: (262) 538-1354

# ESSENTIAL R4400

HYDROXYL-FUNCTIONAL URETHANE / ACRYLIC HYBRID

## Starting Point Formulation - 196A 2K Coating

<u>MATERIALS</u>	<u>POUNDS</u>
<b>Part A Ingredients:</b>	
Essential R4400	725.10
<b>Premix the following three ingredients:</b>	
Water	100.10
Dowanol® DPnB	46.70
Dowanol® DPM	28.00
<b>Premix the following two ingredients:</b>	
Water	23.40
Foamex 822	9.40
Capstone FS-65	<u>1.90</u>
	<b>934.60</b>

<u>MATERIALS</u>	<u>POUNDS</u>
<b>Part A Ingredients:</b>	
196A	934.60
<b>Part B Ingredients:</b>	
Easaqua XL600	<u>65.40</u>
<b>TOTAL:</b>	<b>1000.00 LBS</b>

<b>Part A &amp; B (above) Wt. % Solids</b>	28.59
<b>VOC content</b>	245.1 g/l



The Spark of Innovation

28391 Essential Road  
P.O. Box 12  
Merton, WI 53056-0012  
(262) 538-0091 • FAX: (262) 538-1354

[www.essentialpolymers.com](http://www.essentialpolymers.com)

# ESSENTIAL R4400

HYDROXYL-FUNCTIONAL URETHANE / ACRYLIC HYBRID

## Performance Information

All tests were performed on coatings applied at 77°F and 50% Relative Humidity and cured for 7 days.

Tests performed on aluminum panels (1-mil dry films)

Konig Hardness (seconds): **1 day** - 100    **7 day** - 130

Test performed on concrete test blocks (2 coats), 1 hour covered spot test.

Water.....	No Effect	70% Isopropanol .....	Slight Softening, Full Recovery
50% Ethanol.....	No Effect		
10% Ammonia.....	No Effect	Beer .....	No Effect
Red Wine Vinegar.....	No Effect	Pickle Juice .....	No Effect
Beet Juice.....	No Effect	Mustard .....	Faint Stain, Full Recovery
Coca Cola.....	No Effect	Skydrol Hydraulic Fluid .....	No Effect
Tomato Juice.....	No Effect	6 Hour Vinegar Spot Test ....	No Effect
HCL.....	No Effect	Kerosene ....	Faint Stain, Full Recovery
Diesel Fuel.....	No Effect	Gasoline .....	No Effect
Windshield Washer Fluid.....	No Effect	Transmission Fluid .....	No Effect

## Supplier Information

<u>Product</u>	<u>Description</u>	<u>Supplier</u>
Essential R4400	Urethane/Acrylic Hybrid	Essential Polymers
Tego® Foamex 822	Defoamer	EVONIK
Capstone® FS-65	Leveling Agent	DuPont
Easagua™ XL 600	Cross-Linking Agent	VENCOREX



The Spark of Innovation

28391 Essential Road  
P.O. Box 12  
Merton, WI 53056-0012  
(262) 538-0091 • FAX: (262) 538-1354

[www.essentialpolymers.com](http://www.essentialpolymers.com)