



## TECHNICAL SERVICE BULLETIN

### RADKYD® 105

RadKyd® 105 is an Alkyd based UV Polymer designed to bring out the natural aesthetics of wood substrates. RadKyd® 105 can be used in 100% solids UV formulations alone or in conjunction with UV oligomers. RadKyd® 105 can be used as a self-sealer or, for best adhesion results, over RadKyd® 110 sealer. Besides bringing out the natural aesthetics of wood substrates, RadKyd® 105 delivers excellent stain and chemical resistance, substrate wetting, gloss/DOI and application properties.

#### CHARACTERISTICS

PERCENT UV POLYMER  
 VISCOSITY, cps  
 ACID NUMBER  
 GARDNER COLOR  
 POUNDS PER GALLON  
 DILUENT  
 CLARITY

#### TYPICAL SPECIFICATIONS

84 – 86%  
 70,000 – 80,000  
 13 - 17  
 3 Max  
 9.45 – 9.55  
 14 – 16% Trimethylolpropane triacrylate  
 CLEAR

#### FEATURE

- Substrate Wetting
- Stain and Chemical Resistance
- DOI
- Full Gloss Capability
- Adhesion

#### APPLICATIONS

- Wood Flooring
- Wood Furniture
- Wood Cabinetry
- Wood Paneling

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**STARTING POINT FORMULATION: A-P219B47**

<b>RadKyd 105 UV Roll Coat Formulation</b>				
POUNDS	GALLONS	ITEM/INSTRUCTIONS	Formula No.	A-P219B47
48.30		<b>CHARGE TO MIXING TANK</b>	<b>Physical Properties</b>	
16.33		<i>RadKyd 105<sup>(1)</sup></i>	VISCOSITY, 25C, cPs	562
31.98		Laromer TMPTA <sup>(2)</sup>	Appearance	Clear
		Sartomer SR 9003B (Propoxylated neopentylglycol diacrylate) <sup>(3)</sup>		
3.39		Irgacure 1173 <sup>(2)</sup>	<b>Performance Properties</b>	
			Gloss, 20/60/85	77.7/90.7/96.4
			<b>SUPPLIERS</b>	
			1	<b>OPC Polymers</b>
			2	BASF
			3	Sartomer
100		<b>TOTAL</b>		

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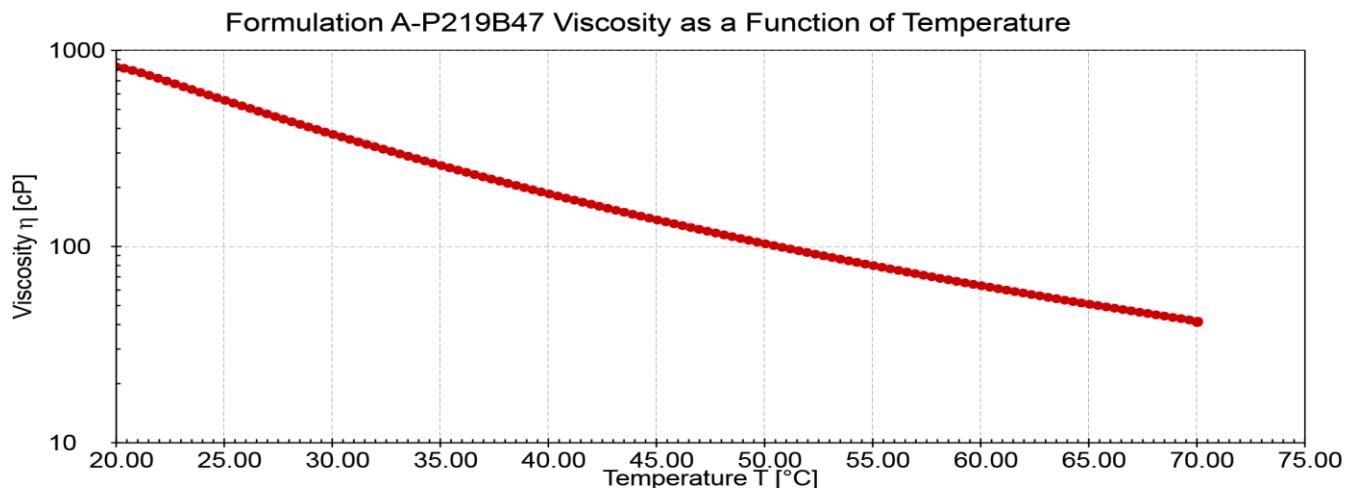
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### Viscosity vs Temperature (A-P219B47)



### FORMULATION A-P219B47 PROPERTIES

Viscosity, 25C, cp	562
<b>Film Appearance, 1mil, Cure Med. Pressure Hg, 934 mj/cm<sup>2</sup>, 0.639 W/cm<sup>2</sup></b>	
Visual Clarity	Clear
Gloss 20/60/85	77.7/90.7/96.4
<b>Film Performance</b>	
<b>Adhesion to Solid Red Oak, 6 coats at 0.3 mil/pass; 1.9 mil total; Cure Med. Pressure Hg, B-Stage cure 303 mj/cm<sup>2</sup>, 0.667 W/cm<sup>2</sup> per cure pass; full cure 967 mj/cm<sup>2</sup>, 0.690 W/cm<sup>2</sup> per cure pass</b>	
ASTM D3359, Tape	2B
ASTM D2197 Scrape Adhesion, loop stylus	<5Kg
Chemical Stain Resistance, Value out of total possible Value of 75	73
Abrasion Resistance, 1000 cycles, CS17 Wheels, 1000 g load/wheel; milligrams lost	65.7 mg

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### TENSILE PROPERTIES

Property	RadKyd® 105	Std. Urethane Acrylate
Tensile Strength	15.38 MPA	29.00 MPA
% Elongation at Break	26 %	37 %
Young's Modulus	581 MPA*	N/A

\*MPA = Mega Paschal

### STAIN RESISTANCE PROPERTIES

	Stain #	Standard Urethane Acrylate Control, Recovered	Alkyd Acrylate A-P219B47 Recovered
<b>Mustard</b>	1	4	4
<b>Ketchup</b>	2	5	5
<b>Cola</b>	3	5	5
<b>Vinegar</b>	4	5	5
<b>Lipstick</b>	5	5	5
<b>Nail Polish</b>	6	5	5
<b>50/50 DI H2O/ETOH</b>	7	5	5
<b>Iodine</b>	8	3.75	4.5
<b>10% Mercurochrome</b>	9	3.75	4.5
<b>Bleach</b>	10	4	5
<b>409 Cleaner</b>	11	5	5
<b>Bottled Water</b>	12	5	5
<b>Shoe Polish</b>	13	4.5	5
<b>MEK 15</b>	14	5	5
<b>Acetone 15</b>	15	5	5
<b>Total stain value</b>		70	<b>73</b>
<b>Average stain value</b>		4.7	4.9

0=severe, 5= No Effect

RadKyd® 105 is a registered trademark of OPC Polymers.

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