



## NeoResins

### NeoRez R-967

NeoRez R-967 is an emulsion of an aliphatic urethane in water. It contains no organic cosolvent and will dry by evaporation of water to yield soft, flexible films with exceptional abrasion resistance and ultraviolet light stability. By incorporating air-dry crosslinkers, such as Crosslinker CX-100, water, solvent and chemical resistance of coatings may be improved. This emulsion is infinitely dilutable with water and may be formulated with typical additives used in water-borne systems. It is ideally suited for textile applications where drape and flexibility are required.

#### Key Benefits

- Contains No Organic Cosolvent
- Abrasion Resistant
- UV Resistant
- Flexible
- Launderable

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#### Typical Properties

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Appearance	Milky-white
Total solids, by weight, %	40
Total solids, by volume, %	38.7
pH	8.0
Viscosity, Brookfield, 25°C, cps	250
Weight per gallon, 25°C as supplied, lbs	8.6
Flash point, °F. Pensky-Martens closed cup	No flash point
Heat stability, 52°C, one month	Satisfactory
Freeze/thaw stability	Keep from freezing
Mechanical stability	Satisfactory

Bulletin R-967  
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## NeoResins

### APPLICATION CHARACTERISTICS

NeoRez R-967 is designed to be applied directly as supplied by spray, dip, roll or flow coating. Although no coalescing agents are necessary, some applications may require defoaming or flow control and leveling agents. Recommendations to improve foam resistance, flow and leveling are listed in our NeoRez R-960 bulletin.

#### Drying Characteristics

Three mil wet films of NeoRez R-967 were applied on a glass plate. Dry times and sward hardness development were obtained at 72°F and 54% relative humidity.

Set to touch, min.	25
Through dry, min.	45
<b>Sward Hardness Development</b>	
1 hour	6
2 hours	6
24 hours	6
1 week	6
20 minutes (baked at 200°F)	6

#### Adhesion Characteristics

Films of NeoRez R-967 were prepared from 3 mil wet draw downs on the substrates and allowed to cure at ambient conditions for one week. Adhesion was determined by ASTM D-3359 method B. Adhesion may be improved by incorporating leveling aids and/or Crosslinker CX-100. Also, blends with suitable acrylic polymers may be used to improve adhesion to plastics.

Cold rolled steel	
Smooth	5B
Bonderite 100 treated	5B
Bonderite 1000 treated	5B
Tin plated	5B
Aluminum	
Bare	5B
Anodized	5B
Plastics	
HDPE	0B
Polycarbonate	0B
Sheet molding compound (polyester)	4B
Nylon	5B
Flexible vinyl	3B

Bulletin R-967



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### PERFORMANCE PROPERTIES

#### Free Film Properties

100% Modulus, psi	1000
Ultimate tensile strength, psi	4200
Ultimate elongation, percent	500

#### Clear Film Properties

A 1.0 mil dry film was cast on cold rolled steel and force dried for 20 minutes at 200°F. Comparable properties were obtained with one week ambient cure.

Pencil hardness	3H
Sward hardness	6
Taber Abrasion resistance (CS-17, 1 kg, 100 cycles)	Excellent
Gloss (on black glass)	
60° Geometry	92
20° Geometry	85
Flexibility, "0" T bend on aluminum	Pass
Impact resistance, in/lbs., pass/fail	
Direct	160/-
Reverse	160/-

#### Clear Film Chemical Resistance

Force dried clear films (1.0 mil dry, 20 minutes at 100°F) on cold rolled steel were rated for softening and whitening immediately after testing. Results are as follows:

NOTE: Chemical resistance can be improved by the addition of 2% Crosslinker CX-100.

##### 24 Hour Immersion

Toluene	
Softening	Slight
Whitening	No effect
Methanol	
Softening	Severe
Whitening	Severe

Bulletin R-967



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### PERFORMANCE PROPERTIES, Cont'd

#### Clear Film Chemical Resistance, Cont'd.

##### One Hour Spot Test

##### Glacial Acetic Acid

Softening

Moderate

Whitening

Moderate

##### 1N NaOH

Softening

Moderate

Whitening

No effect

#### Clear Film Environmental Properties

One mil dry films were spray applied to cold rolled steel and force dried 20 minutes at 200°F.

##### Cleveland Cabinet Humidity Resistance (100°F, 100% RH, 100 hours)

Whitening

Severe/recovers

Blistering

No effect

Gloss loss

No effect

##### Salt Spray Resistance (5%, NaCl, 95°F, 100 hours)

##### Scribed:

Rusting

Slight

Undercutting

1/4 inch

Blistering

No effect

##### QUV Weathering (500 hours/Alclad Aluminum)

Gloss loss

No effect

Blistering

No effect

Yellowing

No effect

Bulletin R-967



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Bulletin R-967