



Technical Data Sheet

RHOPLEX™ EP-6060 Acrylic Polymer

For Factory-Applied Wood Coatings

Introduction

RHOPLEX™ EP-6060 Acrylic Polymer is recommended for factory-applied interior wood coatings requiring early hardness, block resistance, and sandability. It can be used in clear formulations as a sealer and topcoat or in lightly pigmented (PVC 20%) coatings. The wet and dry clarity of films based on RHOPLEX™ EP-6060 Acrylic Polymer is good, especially over light wood.

Features

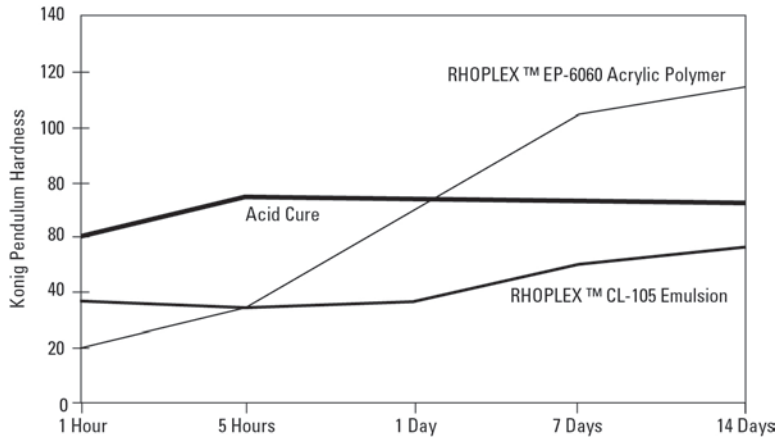
- Excellent early sandability
- Early block resistance
- Good hot print resistance
- Outstanding mar and scratch resistance
- Very good non-yellowing properties, especially over white finishes

Typical Physical Properties¹

Property	Typical Values
Appearance	Milky White Liquid
Solids Content, %	37.5 - 38.5
pH	7.9 - 8.9
Viscosity, Brookfield, cPs (25°C) (LVF, #1 spindle, 60 rp)	< 1000
Specific Gravity	1.07
Minimum Film Formation Temperature, (MFFT), °C	58
Acid Number	104 mg KOH/g solid resin

1. These properties are typical but do not constitute specifications.

Figure 1: Hardness Development as a Function of Drying Time of the Coating



Appearance

The clarity and grain definition of clear lacquers based on RHOPLEX™ EP-6060 Acrylic Polymer are good. The best appearance is achieved on light wood.

Since RHOPLEX™ EP-6060 Acrylic Polymer is delivered at a pH between 7.9 and 8.9, discoloration may occur over oak. It is recommended, therefore, that a sealer based on RHOPLEX™ CL-105 Acrylic Polymer be used on oak before applying a lacquer based on RHOPLEX™ EP-6060 Acrylic Polymer.

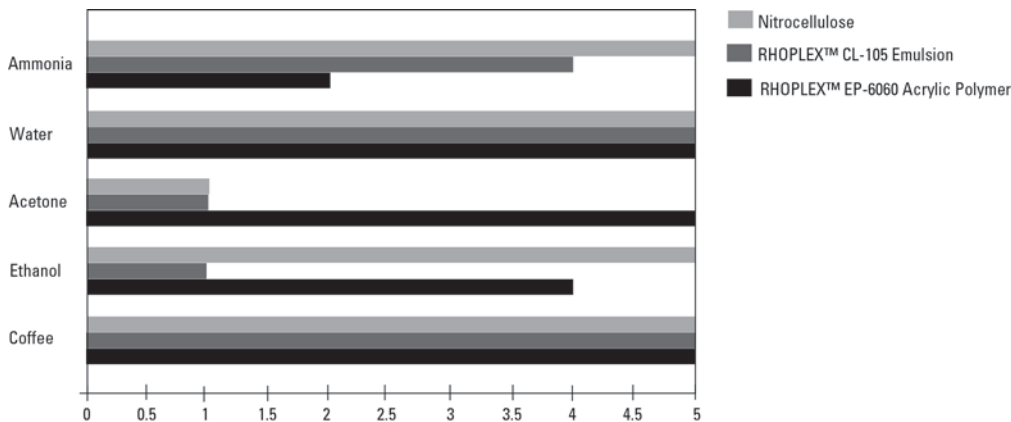
Stain Resistance

The stain resistance of topcoats based on RHOPLEX™ EP-6060 Acrylic Polymer is comparable to that of nitrocellulose lacquers. The use of RHOPLEX™ EP-6060 Acrylic Polymer for topcoat applications (such as table tops) that are normally cleaned with high pH cleaning agents is not recommended. The stain resistance of RHOPLEX™ EP-6060 Acrylic Polymer is illustrated in Figure 2 below.

Stain Resistance Test Specifications

RHOPLEX™ EP-6060 Acrylic Polymer-based lacquers were sprayed on pine panels (4-5 mils wet film) and dried for 10 minutes at 22°C and 55% relative humidity. The lacquers were then dried in an oven for 10 minutes at 60°C. After cooling for five minutes, the panels were sanded and a second coat of 4-5 wet mils was applied. Stains were evaluated after two weeks drying of the coating. Stains sat on the coating for the following lengths of time: ammonia for two minutes; water for 24 hours; acetone for two minutes; ethanol for six hours, and coffee for six hours.

Figure 2: Stain Resistance of RHOPLEX™ EP-6060 Acrylic Polymer



Semigloss Topcoat Based on RHOPLEX™ EP-6060 Acrylic Polymer Formulation EP-6060-1

Materials	Percent By Weight	Lb / 100 US Gallon	Gallon / 100 US Gallons
RHOPLEX™ EP-6060 Acrylic Polymer	71.10	617.84	69.41
<i>Premix:</i>			
Dipropylene Glycol Monobutyl Ether (DPnB)	2.00	17.13	2.26
Ethylene Glycol Monobutyl Ether (EB)	6.00	52.19	6.95
Paraplex WP-1 plasticizer	1.20	10.34	1.13
Water	7.00	60.81	7.30
<i>Add:</i>			
Tego Foamex 805 defoamer	0.50	4.33	0.52
ACRYSOL™ RM-825 Rheology Modifier	1.00	8.40	0.96
Tego Glide 410 (50% in DPM) additive	0.50	4.16	0.52
Michemlube 39235 emulsion	3.00	26.10	3.13
Bermasilk MK flattening agent	0.70	6.50	0.52
Water	7.00	60.81	7.30
Totals	100.00	868.46	100.00
Formulation Constants			
Weight, Solids, %	30.6		
Volume, Solids, %	26.8		
Viscosity, #2 Zahn cup, sec. 77°F	22 - 25		
pH	7.5 - 8.0		
VOC, g/l	231.60		
VOC, lb/gal	1.93		
HAPS, lb/lb solids	0.20		
Weight, lb/US Gal	8.69		
Gloss, 60°	45 - 50		
Stability, 7 days @ 120°F (50°C)	Pass		

Premix and add to above polymer while stirring: Dipropylene glycol monobutyl ether, ethylene glycol monobutyl ether, and Paraplex WP-1 should be mixed together. Then add the water to this mix.

Semigloss Topcoat Based on RHOPLEX™ EP-6060 Acrylic Polymer Formulation EP-6060-2

Materials	Percent By Weight	Lb / 100 US Gallon	Gallon / 100 US Gallons
RHOPLEX™ EP-6060 Acrylic Polymer	74.10	645.25	72.50
<i>Premix:</i>			
Dipropylene Glycol Monobutyl Ether (DPnB)	2.00	17.13	2.26
Ethylene Glycol Monobutyl Ether (EB)	6.00	52.27	6.97
Paraplex WP-1 plasticizer	1.20	10.34	1.13
Water	7.00	60.89	7.31
<i>Add:</i>			
Tego Foamex 805 defoamer	0.50	4.33	0.52
ACRYSOL™ RM-825 Rheology Modifier	1.00	8.40	0.96
Tego Glide 410 (50% in DPM) additive	0.50	4.16	0.52
Bermasilk MK flattening agent	0.70	6.50	0.52
Water	7.00	60.89	7.31
Totals	100.00	870.16	100.00
Formulation Constants			
Weight, Solids, %	30.6		
Volume, Solids, %	26.9		
Viscosity, #2 Zahn cup, sec. 77°F	22 - 25		
pH	7.5 - 8.0		
VOC, g/l	231.60		
VOC, lb/gal	1.93		
HAPS, lb/lb solids	0.20		
Weight, lb/US Gal	8.69		
Gloss, 60°	45 - 50		
Stability, 7 days @ 120°F (50°C)	Pass		

Premix and add to above polymer while stirring: Dipropylene glycol monobutyl ether, ethylene glycol monobutyl ether and Paraplex WP-1 plasticizer should be mixed together. Then add the water to this mix.

Material Safety Data Sheets

The Dow Chemical Company Material Safety Data Sheets (MSDS) contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products.

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RHOPLEX™ EP-6060 Acrylic Polymer

Form No. 884-00242-0712-NAR-EN-CDP

Handling Precautions

Before using this product, consult the Material Safety Data Sheet (MSDS)/Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

CAUTION! Keep combustible and/or flammable products and their vapors away from heat, sparks, flames and other sources of ignition including static discharge. Processing or operating at temperatures near or above product flashpoint may pose a fire hazard. Use appropriate grounding and bonding techniques to manage static discharge hazards.

CAUTION! Failure to maintain proper volume level when using immersion heaters can expose tank and solution to excessive heat resulting in a possible combustion hazard, particularly when plastic tanks are used.

Storage

Store products in tightly closed original containers at temperatures recommended on the product label.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

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