PRIMAL™ EP-6060 Emulsion

For Factory-Applied Wood Coatings

Regional Product Availability

Asia-Pacific

Description

PRIMAL™ EP-6060 Emulsion is an excellent choice 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 PRIMAL EP-6060 Emulsion is good, especially over light wood.

Key Features

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

Benefits

- Rapid early handling properties for factory applications

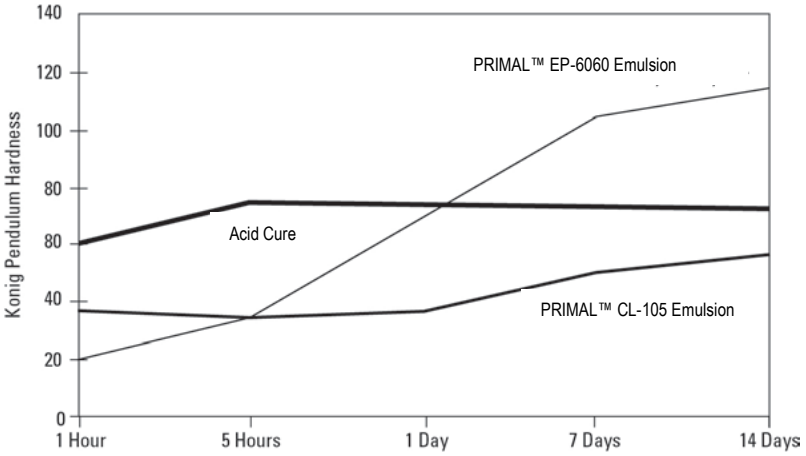
Typical Properties

(These properties are typical but do not constitute specifications).

Property	Typical Values
Appearance	Opaque, white to off-white liquid
Solids, by weight, %	38.0
Density, wet (g/ml)	1.07
pH	8.4
Minimum Film Formation Temperature (± 2ºC)	58
Viscosity (Brookfield LV #1, 60 rpm, 25 °C), cps	< 100
Acid number (mg KOH / g solid resin)	104
Storage precautions	Protect from freezing

Figure 1

Hardness Development as a Function of Drying Time of the Coating



Appearance

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

Since PRIMAL EP-6060 Emulsion is delivered at a pH around 8.4, discoloration may occur over oak. It is recommended, therefore, that a sealer based on PRIMAL CL-105 Emulsion be used on oak before applying a lacquer based on PRIMAL EP-6060 Emulsion.

Stain Resistance

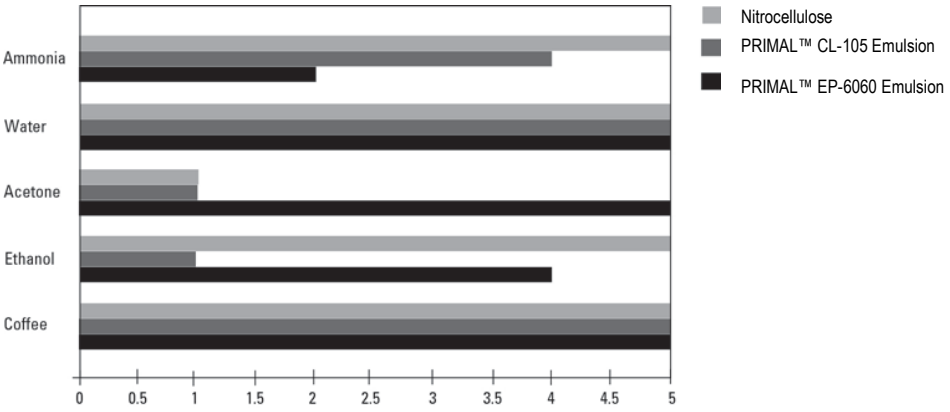
The stain resistance of topcoats based on PRIMAL™ EP-6060 Emulsion is comparable to that of nitrocellulose lacquers. The use of PRIMAL EP-6060 Emulsion for topcoat applications (such as tabletops) that are normally cleaned with high pH cleaning agents is not recommended. The stain resistance of PRIMAL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

Stain Resistance Test Specifications

PRIMAL EP-6060 Emulsion based lacquers were sprayed on pine panels (4-5 mils wet film) and dried for 10 minutes at 22ºC 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 PRIMAL™ EP-6060 Emulsion



Semi-gloss Top Coat #1 – Suggested Starting Point Formulation

Material Name	Weight (kg)
PRIMAL™ EP-6060 Emulsion	71.1
Premix and add to the above polymer:	
DOWANOL™ DPnB Coalescent	2.0
BUTYL CELLOSOLVE™ Coalescent	6.0
Paraplex WP-1 Plasticiser	1.2
Water	7.0
Then add in order, with mixing:	
Tego Foamex 805 defoamer	0.5
ACRYSOL™ RM-825 Rheology Modifier	1.0
Tego Glide 410 (50% in DPM) additive	0.5
Michemlube 39235 wax emulsion	3.0
Bermasilk MK flattening agent	0.7
Water	7.0
Total	100.0
Weight / Volume solids (%)	30.6 / 26.8
Viscosity, #2 Zahn cup, sec. 25 °C	22 -25
pH	7.5 – 8.0
VOC, g/lt	231.6
Gloss, 60°	45 - 50
Density, wet, g/ml	1.04
Stability, 7 days at 50 °C	Pass

Semi-gloss Top Coat #2 – Suggested Starting Point Formulation

Material Name	Weight (kg)
PRIMAL™ EP-6060 Emulsion	74.1
Premix and add to the above polymer:	
DOWANOL™ DPnB Coalescent	2.0
BUTYL CELLOSOLVE™ Coalescent	6.0
Paraplex WP-1 Plasticiser	1.2
Water	7.0
Then add in order, with mixing:	
Tego Foamex 805 defoamer	0.5
ACRYSOL™ RM-825 Rheology Modifier	1.0
Tego Glide 410 (50% in DPM) additive	0.5
Bermasilk MK flattening agent	0.7
Water	7.0
Total	100.0
Weight / Volume solids (%)	30.6 / 26.9
Viscosity, #2 Zahn cup, sec. 25 °C	22 -25
pH	7.5 – 8.0
VOC, g/lt	231.6
Gloss, 60°	45 - 50
Density, wet, g/ml	1.04
Stability, 7 days at 50 °C	Pass

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.

Storage

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

Disposal

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 Coating Materials Technical Representative for more information.

Chemical Registration

Many countries within the Asia-Pacific require the registration of chemicals, either imported or produced locally, prior to their commercial use. Violation of these regulations may lead to substantial penalties imposed upon the user, the importer or manufacturer, and/or cessation of supply. It is in your interests to ensure that all chemicals used by you are registered. Dow does not supply unregistered products unless permitted under limited sampling procedures as a precursor to registration.

Note on Asia-Pacific Product Line

Product availability and grades vary throughout the countries in Asia-Pacific. Please contact your local Dow Coating Materials representative for further information and samples.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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