

DuPont™ 18321S™ Wood System Polyurethane Clearcoat

Type

DuPont™ 18321S™ is a high-productivity polyurethane clearcoat.

Description

DuPont™ 18321S™ is a clear polyurethane coating designed to deliver excellent appearance and durability for interior and exterior cabin surfaces. DuPont™ 18321S™ delivers exceptional clarity, dry times, sandability, UV-protection, and low overspray.

Recommended Uses

DuPont™ 18321S™ is recommended for use with DuPont™ 18320S™ as part of a wood cabinetry finishing system. This system is designed to provide excellent appearance while reducing overall material usage and labor cost in the production of high-build, mirror-finish wood surfaces.

Note: For high temperature and larger applications, Imron® MS1™ Clear may be used in place of DuPont™ 18320S™.

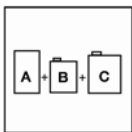
General Information for Use



Components

DuPont™ 18321S™ Polyurethane Clearcoat
DuPont™ 18120S™ Urethane Activator
DuPont™ 18122S™ Slow Urethane Activator (optional)

See DuPont™ 18320S™ product data sheet for Filler-Sealer information.



Mix Ratio

Thoroughly mix DuPont™ 18321S™ prior to activation. Filter activated material prior to spray application.

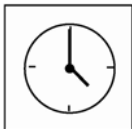
Two Component System

DuPont™ 18321S™ Polyurethane Clearcoat
DuPont™ 18120S™ / 18122S™ Urethane Activator

Parts by Volume

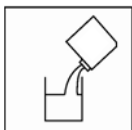
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1

Viscosity will be 15 - 17 seconds in a Zahn #2 cup.



Pot Life and Induction Time

Pot life is 2 hours at 70°F (21°C).
Induction Time: None



Additives

For flattening DuPont™ 18321S™: Refer to the Flattener Product Data Sheet for starting point gloss levels.

Guidelines for Use



Substrates and Surface Preparation

Surface preparation is critical to final appearance of clearcoat. For wood surfaces, see preparation recommendations provided in the DuPont™ 18320S™ product data sheet.



Gun Setup

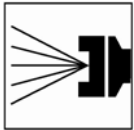
DuPont™ 18321S™ can be applied with conventional, HVLP, air-assisted airless, and electrostatic spray equipment using pressure, siphon, or gravity fluid delivery.

Conventional Fluid Tip

Pressure Pot	1.2mm – 1.6mm (.047" - .063")
Siphon Feed	1.2mm – 1.6mm (.047" - .063")
Gravity Feed	1.2mm – 1.6mm (.047" - .063")

HVLP

Pressure Pot	1.2mm – 1.6mm (.047" - .063")
Siphon Feed	1.2mm – 1.6mm (.047" - .063")
Gravity Feed	1.2mm – 1.6mm (.047" - .063")

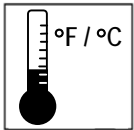


Fluid Delivery

Conventional	10-12 ozs/min
HVLP	10-12 ozs/min

Air Pressure

Conventional	50 – 60 psi atomizing air
HVLP	25 – 30 psi atomizing air



Environmental Conditions

Substrate and ambient temperature must be between 50°F (10°C) and 110°F (43°C). The substrate must be at least 5°F (3°C) above the dew point. Relative humidity should be below 90%.

For optimum appearance spray DuPont™ 18321S™ at 75°F (24°C) or warmer.



Application

A 2 step process is recommended for DuPont™ 18321S™ application. Spray a first coat medium wet, with a wet film build of no more than 1.0 mil. Allow the coat to flash 3-5 minutes before applying the next coat. Repeat with a third coat.

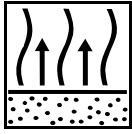
Once the first step is completed, allow the coating to dry for 3 hours at 70°F (or 30 minutes at 120°F). Sand smooth with 400 grit or higher before application of additional coats.

Repeat the process with an additional 3 coats with 3-5 minute flash in between each coat. After the second step is completed, allow the coating to dry for at least 8 hours at 70°F.

Polishing

The coating should be sanded smooth, finishing with 1500 grit or higher. A mirror finish can be obtained using a variable speed buffer (1200 – 1800 rpm) with foam pad and finishing polish. Prior to final buffing/polishing, the DuPont™ 18321S™ application processes may be repeated to increase depth of finish.

Caution: Excessive heat generation during buffing will negatively impact the wood grain appearance.



Dry Times

Force Dry at 120°F (49°C)

Flash Before Force Dry

none required

Dry to Touch

10 minutes (after cool down)

Dry to Sand/Polish

30 minutes

Air Dry at 70°F (21°C)

Flash Between Coats

3 – 5 minutes

Dust Free

10 minutes

Dry to Sand/Polish

3 hours

** Infrared drying is not recommended.*



Recoat

DuPont™ 18321S™ may be recoated with itself after 1 hour if force dried and 2 hours if air dried. If recoat time is longer than 24 hours, scuff sand with 600 grit paper.



Cleanup Solvents

DuPont™ 105™ Thinner or DuPont™ 106™ Thinner

Physical Properties

VOC

DuPont™ 18321S™

Less Exempts (LE)

4.2 lbs/gal

As Packaged (AP)

2.9 lbs/gal

Mixed Ready-to-Spray with DuPont™ 18120S™

4.2 lbs/gal

3.2 lbs/gal

Factory-Packaged Clear

Color

Clear

Closed Cup Flash Point

20°F – 73°F

Shelf Life

3 years (Unopened, stored at 50° – 110°F)

Ready-to-Spray

Theoretical Coverage

490 ft²/gal at 1 mil dry film thickness

Weight Solids

38%

Volume Solids

31%

Gallon Weight

7.7 lbs/gal

Dry Film

Gloss

≥ 90 measured at 60°

Coating Performance

Chemical and Solvent Resistance

Very Good

Humidity Resistance

Excellent

Acid and Alkali Resistance

Very Good

Abrasion Resistance

Very Good

Weatherability

Excellent

Flexibility

Very Good

Safety and Handling

For industrial use only by professional, trained painters. Not for sale to or use by the general public. Before using, read and follow all label and MSDS precautions. If mixed with other components, mixture will have hazards of all components.

Ready to use paint materials containing isocyanates can cause irritation of the respiratory organs and hypersensitive reactions. Asthma sufferers, those with allergies and anyone with a history of respiratory complaints must not be asked to work with products containing isocyanates.

Do not sand, flame cut, braze or weld dry coating without a NIOSH approved air purifying respirator with particulate filters or appropriate ventilation, and gloves.

Do not allow material or overspray to enter drains or waterways.

E-R 4948/ K-17841
Revised 8/2010