



AXON PRODUCTS

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WOOD TECHNICAL DATA

PST-916 **CLEAR POLYESTER TOPCOAT - UV CURABLE**

Revised: August 2007

This clear, sprayable, polyester topcoat provides maximum gloss and depth. It also has excellent mar and scratch resistance properties.

GENERAL RULES:

1. This product should be stored no longer than 6 months from date of manufacture. It should be kept in its original container in a dark, cool, dry place away from a source of heat and at a temperature below 86°F.
2. For best performance the temperature of the product and the room should be 69 - 79°F and the relative humidity 35 - 75%.
3. The substrate needs to be well sanded with 180 - 220 grit paper, and must be free from dust and grease. The moisture content of the substrate should vary from 8 - 12%.
4. An **ISB/ISC** Series insulator must be applied before coating with polyester on woods such as Teak, Rosewood, and other exotic woods with a high content of tannin. It also must be applied after staining.
5. A **PSP** Series sealer should be used next, if a thick build is desired and then sanded with 280 - 320 grit paper.

UV CURING:

The **PST-916** Clear Polyester Topcoat - UV Curable makes it possible to cure with UV lamps. If the shape of the parts do not allow for full exposure to UV radiation, it is possible to add promoter and catalyst to obtain a dual cure system. It is not necessary to add promoter and catalyst if the shape of the parts allow for full exposure to UV radiation. After allowing 15 - 20 minutes of flash time, simply subject the part to UV radiation to obtain full cure in 3 - 5 seconds.

Please consult your Axon Products technical representative when considering UV curing.

MIXING INSTRUCTIONS:

The standard additions for promoter and catalyst are as follows:

- A) Promoter: Add 1% by volume of **PSC-507** Polyester Promoter. This mixture will be stable approximately 12 hours without a noticeable rise in viscosity.
- B) Catalyst: Add 2% by volume of **PCC-901** Polyester Catalyst. This catalyst provides minimal dry times and becomes dust free in approximately 20 - 30 minutes. Once catalyzed, however, the usable pot life is approximately 15 minutes (temperature dependant). Therefore it is necessary to use two-component equipment or to spray only an amount that can be consumed in this time frame.

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ATTENTION:	DO NOT MIX CONCENTRATED PSC-507 PROMOTER AND PCC-901 CATALYST TOGETHER. THIS MIXTURE CAN RESULT IN A VIOLENT CHEMICAL REACTION!
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		<u>5 Gallon Mix</u>	<u>1 Gallon Mix</u>	<u>1 Quart Mix</u>
PST-916	Clear Polyester Topcoat - UV Curable	20,000 ml	4,000 ml	1,000 ml
PSC-507	Polyester Promoter Use a 1.0% mix	200 ml	40 ml	10 ml
PCC-901	Polyester Catalyst Always use a 2.0% mix	400 ml	80 ml	20 ml

REDUCTION - VISCOSITY:

The **PST-916** polyester topcoat is shipped at a viscosity of 27-30 seconds on a #2 "EZ" Zahn viscosity cup. If a viscosity reduction is desired, a solvent reduction of 5-20% by volume should provide a satisfactory viscosity. If ambient temperature is below 80°F (27° C), reduce with **RED-912** Solvent / Reducer. During very warm summer months when ambient temperatures exceed 80°F, reduce with **RED-937** Solvent / Reducer. We do not recommend spraying polyesters when ambient conditions are over 95°F (35°C) or the relative humidity above 75%, because the dry time and gel time become too fast which can cause "solvent pop" and other surface problems.

SPRAYING:

Most spray equipment can be used. It is important that the topcoat be applied as "wet" as possible without sagging (approximately 4 - 6 mils gives best results). Avoid dry spraying. Unlike lacquers, polyesters do not have enough solvent to completely re-wet dry spray.

Usually, one coat of topcoat is recommended and satisfactory. If two coats are desired, wait approximately 15 minutes or until "tacky" before spraying the second coat. If subsequent coats are desired after the polyester is dry, the part should be well sanded with 320 grit sandpaper to prevent intercoat adhesion problems.

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*** Recommended Spray Equipment:**

Graco 700N	Conventional spray gun 1.8 mm #2N tip and needle, #21 air cap
DeVilbiss JGHV530	HVLP spray gun (pressure feed) FX tip and needle, #705 air cap

DRY TIME:

A) With **PCC-901 Polyester Catalyst:**

Dust Free	20 - 30 minutes
Print Free	60 - 75 minutes
Dry Hard	3 - 4 hours
Full Cure	5 - 7 days

Note: Ambient temperature has a significant impact on dry times. For example, subjecting the part to 15 minutes of warm moving air after 15 minutes of flash time at 100°F will reduce the print free time by 50 - 75%. Conversely, it is important to note that the chemical reaction during curing will stop at temperatures below 68°F (20°C) or a relative humidity below 35%. Parts permitted to dry overnight must be subjected to a temperature above 68°F.