# CLEAR SUNSHIELD POLYESTER TOPCOAT

PRODUCT #904-061

Hawkeye Industries

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## KEY USES

- Exterior carbon fiber parts
- Exterior fiberglass parts
- Multiple marine applications (above waterline)
- Outdoor wood furniture

## FEATURES

- UV RESISTANCE

Resists yellowing when exposed to sunlight.

- EASY APPLICATION

This product is easy to apply and sand.

- PRE-PROMOTED

For safety, consistency and easy use. Air-cure with no wax required.

- HIGH GLOSS

Polishes to a high gloss – wet look surface.

- CHEMICAL RESISTANCE

Highly cross-linked coating provides excellent chemical resistance.

- STRENGTH & FLEXIBILITY

Excellent flexibility and impact resistance.

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## DESCRIPTION

Duratec SunShield Clear Polyester Topcoat represents a breakthrough in polyester clear coat technology. The topcoat resists yellowing in sunlight; no sun blocking urethane is required for exterior use. The topcoat provides a high quality finish with good chemical resistance. This product has been specially formulated to be easy to sand and polish.

| **PRODUCT PROPERTIES**<br>All time calculations are based on temperatures of 77°F, 25°C<br>Lab tested with Norox 925 | |
|---|---|
| **Viscosity**<br>Brookfield RVF, Spindle #2 at 20 rpm | 540-800 cps. |
| **Thixotropic Index** | Minimum 3.0 |
| **Gel Time**<br>Based on 100g mass catalyzed at 2% MEKP | 15 - 18 minutes |
| **Weight per gallon*** | 8.84 lbs |
| **Coverage per gallon, 20 mil thickness** | 80 sq. feet |

*Weight per gallon on average. Product sold by container.

## SAFETY & HANDLING

Sunshield Polyester Topcoat is extremely flammable. Do not apply near sparks, open flames or heat. Keep area ventilated. Do not smoke. Avoid continuous breathing of vapor. Sunshield contains ingredients which could be harmful if mishandled. Contact with skin and eyes should be avoided and necessary protective equipment and clothing should be worn. Individuals should wash with soap and water before eating or drinking. All containers should be properly labeled to prevent accidental ingestion or improper disposal. Individuals should reseal any partly used material back in the container. Store under cool, dry conditions and away from open flames and high temperatures. For more detailed instructions on storage, please see the MSDS sheet.

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# CLEAR SUNSHIELD POLYESTER TOPCOAT

APPLICATION GUIDE | PRODUCT #904-061

**PLEASE NOTE**

The following use instructions are broad to address multiple applications. We recommend testing for product compatability with your process. Please contact our Tech Team at (909) 546-1160 with any questions.

## Prepare & Catalyze

Temperature should be at least 64°F for both the product and the part. Sunshield should mix easily by stirring, use of a paint shaker (gallons), or a stand/drill-mounted mixer (pails or drums). Ensure thorough mix.

Catalyze the Duratec at 2.0 % by weight with a low hydrogen peroxide MEKP, like Norox 925. Mix well. Only catalyze what can be used in ~12 minutes.

Sunshield is best applied by spraying. We recommend HVLP air-assisted spray guns. Depending on part size, a 1.8-2.2 mm tip is recommended for most applications. Use 34-40 psi air pressure. Recommended spray distance from part is 12"-18" but may be less depending on applicator technique, part dimensions, and air pressure. Adjust the distance, spray needle and fan to provide the proper spray.

Additional solvent is not needed for most spray guns. Prior to thinning, we suggest increasing tip size. If thinning is required, we suggest the use of Duratec 39UCE Reducer.

## Apply

### Option #1: In-Mold Prior to Laminating

Ensure mold is clean and free of silicone. When sprayed in-mold Sunshield we suggest use of a wax mold release agent like TR108 or honey wax rather than or in conjunction with semi-perm release agents. This will allow the proper surface tension essential for Sunshield to level and flow across the in-mold surface.

Adjust fluid pressure and atomizing air to achieve an even pattern with fine droplets prior to spraying the mold. The first pass should be a dust coat that sets up for two minutes before further application. The dust coat should be a light fog, not a continuous film.

Additional coats of 4-5 mils can be applied, again allowing a minimum of two minutes to out-gas. Twelve mils will provide a nice finish with UV protection. Up to 22 mils can be applied if the part requires aggressive post sanding.

The coating needs to be tacky free for each build coat to bond. Laminate polyesters and vinyl esters when the Duratec has set up and does not transfer, but retains some tack. Cure time varies with temperature and air flow.

For epoxy laminating systems, a tack free surface is required. Increased heat up to 120°F will speed this process. Remember the adhesion comes from the epoxy. Test the bond between the Duratec and your epoxy blend to assure good adhesion.

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# Apply

## Option #2: Topcoating Finished Parts - Cured Laminates

NOTE: For epoxy laminates only: water washing with clean water and a heavy duty scrub sponge pad is necessary before and after sanding to remove amine blush. Amine blush is a byproduct of curing epoxy. If left on the part surface it can compromise adhesion, cause discoloration, or create a haze/fog.

Abrade the entire surface with 180 grit, providing mechanical tooth. Remove dust and acetone-wipe the surface.

Set up spray gun, mix, and catalyze Sunshield as previously mentioned on page 1.

The Duratec may need to be mechanically forced into severe porosity. The first 2-3 mil passes can be worked with a squeegee to fill the holes.

Additional coats can be applied after two minutes and while the surface is still tacky. Allow time between coats for outgassing.

If re-coating the full cured Duratec is necessary, first sand with 180 grit.

The final spray should be sanded, start with finest grit needed for surface. Allowed to cure for 8 hours prior to final polishing.

Pro Tip: Sunshield can by applied by brush or roller when topcoating wood.

# Apply

## Option #3: Topcoating Finished Parts - Wet-on-wet Application

NOTE: Duratec Sunshield can be applied wet-on-wet to polyester (unwaxed) gelcoat for a hi-gloss UV protective layer. Wet-on-wet is not suitable for epoxy resin or urethane coated surfaces - see option 2 for cured laminates.

Catalyze and spray gelcoat according to instructions from gelcoat manufacturer. Build the required depth.

Mix, and catalyze Sunshield 904-061 as mentioned on page 1, adjusting tip size from gelcoat as necessary.

Spray a minimum of 8* mils in 2-3 passes onto the wet surface of the gelcoat. Allow time between passes for out-gassing.

For most applications, Sunshield can be sprayed on gelcoat immediately or up to 12 hours after gelcoat application. If an extended time (~24 hours) has passed, a light sanding of the gelcoat prior to Sunshield application will improve adhesion. No acetone or solvent wipe is necessary prior to spraying Sunshield.

No wax or PVA is required for the gelcoat. The Sunshield will air-cure, sealing the surface and allowing the gelcoat to cure. Cure times will vary based on material thickness and ambient temperatures.

Sand with the finest grit necessary for desired surface, and allow to cure for 8 hours prior to final polishing.

*less than 8 mils may be advised by a Hawkeye Technical Sales Manager based on individual and specific applications. 8 mils is minimum for most applications.

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TROUBLESHOOTING | PRODUCT #904-061

| Problem | Cause | Solution |
|---|---|---|
| **Alligatoring** | Not enough catalyst used. | Check for proper catalyst levels. |
| | Substrate/primer incompatibility or chemical reaction. | Check compatibility of surface of product. |
| | Product sprayed on cold surface. | Expose surface to higher temperature before spraying when ambient temp is below 64°F, 18°C. |
| **Cracking** | Product sprayed too thickly, too fast. | Increase the number of passes, adding dwell time between coats. |
| **Dimples (Craters)** | Film build up too rapid, solvent trapped in product. | Increase the number of passes to achieve desired thickness. Allow for "flash off" between passes. |
| **Fisheyes** | Substrate contaminated. | Do not use a "tack rag". Ensure rag does not leave contaminant on surface. |
| | Contamination in the air. | Spray in a clean area to minimize airborne dust, water, waxes, and/or silicones. |
| | Contamination in the line. | Spray with dry filtered air. |
| | Not using silicone free paste wax | Use a silicone free paste wax, like TR 108 |
| **Orange Peel** | Spray equipment set up incorrectly. | Follow the instructions for equipment set up. |
| | Spray pressure incorrect. | Set pressure at 34-40 psi. |
| | Pot pressure incorrect. | Set pressure at 10-12 psi. |
| **Pattern surface sticks to mold upon release** | Improper release preparation. | Follow manufacturer's instructions when applying release materials. |
| | Primer not fully cured before compounding and polishing. | Follow instructions in the application guide for pattern surfacing. |
| | Excess gel time for tooling gel coat. | Follow manufacturer's recs for gel time |
| **Pinholes** | Substrate porosity. | Fill porous areas with product using squeegee, brush or roller before spraying. |
| **Porosity** | Spray pressure too high. | Reduce pressure to 34-40 psi. |
| | Spray orifice too small. | Use larger orifice. |
| | Acetone used as thinner. | Use slower solvent such as Duratec Reducer or MEK |

See the Liability and Warranty Statement on Page 1