

Frequently Asked Questions About Aircraft Painting



Sherwin-Williams Aerospace Coatings has introduced the Aircraft Color Visualizer, a web-based tool for plane owners, paint shops, aircraft designers and aviation enthusiasts to digitally create and experience aircraft color combinations and see them displayed on a variety of aircraft types.

The typical general aviation plane may only get repainted once every ten years or so. Therefore, it's important to develop a color scheme that the owner can be proud of during the lifetime of the coating. It's also important for the owner to choose a coating and applicator that provide the best possible durability and workmanship to ensure the paint job looks great for a long time.

Plane owners considering new paint schemes for the first time often have questions about the process. Here, we'll address the most common questions and our solutions:

What are signs my plane needs to be repainted?

When the existing coating shows cracking, fading, erosion and visible corrosion, your plane should be repainted. If there is visible corrosion around rivets or leading edges, an expert should review the aircraft.

While a complete airplane paint job can be expensive, not painting it could cost even more in the long run. This is because corrosion can become a safety issue, as structural concerns could be impacted. These issues may or may not be noticeable, which is why regular inspections should always include corrosion examinations.

How often should a plane be painted?

Frequency for painting (or repainting) an aircraft is often up to personal preference. Besides the appearance, color and scheme design, different factors come into play. When considering painting or repainting an aircraft, refer to these questions:

- How many hours has the aircraft flown?
- Has the aircraft been hangared?
- How has the aircraft been cared for?
- Has the aircraft been washed regularly and correctly?
- In what conditions has the aircraft been flying?
- Have the aircraft's takeoffs and landings been in a saline environment?
- How much UV exposure has the aircraft seen?

All these are ways to evaluate how often a plane should be painted.

What are the steps involved in having my plane painted?

If repainting the plane, the recommended process is to strip off all existing paint. A trained professional should then inspect the plane to ensure the airframe is structurally sound.

Then the aircraft should be cleaned, and the substrate (aluminum) pretreated. The plane should have a primer coat to create corrosion resistance and adhesion for the topcoat. If you are looking for a high-end finish, your chosen refinisher may suggest a high-build primer-surfacer which allows a better base for the topcoat by removing any imperfections in the surfaces for an optimal finish.

The next step would be the application of the color, which could be either one single-stage topcoat, or a two- or three-stage basecoat-clearcoat system.

How long does the painting process take?

This depends on the size and model of the aircraft, how sophisticated the chosen color scheme is and how many colors are included. Typical shop time can run between 10-15 days for a “standard” smaller plane paint shop turnaround (from initial stripping to a completed delivery). Any discovered maintenance and/or corrosion issues may extend that timeframe.

What does a full paint project typically cost?

Overall project cost can vary based on several factors: the size of the plane, the existence of structural issues, the complexity of the new scheme design, the amount of labor and materials involved, etc. More elaborate designs and a greater number of colors will take more application time and affect the overall cost.

Your OEM and/or paint shop will appraise the aircraft and provide a step-by-step timeline and cost estimate for the process and will discuss the vision you have in mind upfront.

How do I achieve my vision of what I want the paint to look like?

Using the new Aircraft Color Visualizer from Sherwin-Williams Aerospace enables you to explore main and complementing colors as well as potential style options.

Contact a professional aircraft scheme designer to further explore color and styles, and to select from a palette of colors and see them in actual use on a variety of aircraft. The Aircraft Color Visualizer allows you to print or share your initial colors and concepts at different iterations to help guide your professional designer in their final scheme creation.

Where do I find a scheme designer?

Our website features [interviews with several aircraft scheme designers](#) to give you an idea of how they approach clients and projects, the design process and what’s behind their design inspiration. Additional options include asking other pilots and aircraft owners for recommendations or checking in with your preferred paint shop for their referrals.

How do I find a reputable aircraft paint shop?

Referrals are your first step; ask other plane owners and pilots about their paint process experience. It is also beneficial to look around the airfield and explore what designs you like or what inspire you. Ask the owner where they went for their paint project, and about their experience with the shop's work. You can also ask your scheme designer for their recommendations: what paint shops (and paint manufacturers) have they and their clients had a good experience with and were able to achieve the vision they created.

What types of exterior coatings are available, and what differentiates them?

Make sure to select a product *designed* to be put on an aircraft. Don't use paints designed for automotive, industrial or other coatings just because they may be less expensive. Specially formulated aerospace coatings are created to provide flexibility, chemical resistance, UV resistance, impact resistance, performance properties and reparability to achieve long-term durability for the rigors and conditions aircraft undertake.

Exterior aerospace coatings are primarily polyurethane or acrylic urethane finishes. These come in single-stage or basecoat-clearcoat (a two- or three-stage process). Both systems have their benefits. Acrylic urethanes have been around for a long time and are "tried and true" because of their durability. Additionally, most shops are comfortable applying acrylic urethanes. Basecoat-clearcoats have advantages because the secondary clearcoat can mean reduced maintenance, increased gloss retention and easier touchups and repairs. Basecoat-clearcoats are often more productive for the paint shop when it comes to multi-color schemes due to their faster dry times, resulting in a faster paint job and reduced labor costs.

Sherwin-Williams Aerospace has provided premium coatings for more than 90 years that are preferred by scheme designers and paint shops around the globe. The paint shop you choose must be comfortable with the coatings system they are spraying and can provide you with a warranty for the look and durability of your paint job.