

## What You Need to Know About Aircraft Hydrographics



Are you seeking executive-level woodgrain or trendy patterns for a unique aircraft interior? Hydro-dipping is a growing trend in both private and commercial aircraft customization, allowing owners to reimagine their aircraft interiors in ways not previously available in wood veneer or paint.

We get a lot of questions about hydro-dipping: what pattern options are available, how much does it cost, where can hydrographics be applied, and how long does it last? In this article, we answer these questions and provide insight into both standard and customizable hydrographic film options and their benefits for operators and private owners seeking aircraft interior refurbishment.

### What are Aircraft Hydrographics?

Hydrographics, also known as hydro-dipping or water transfer printing, is the process of

applying a lightweight film to sturdy submersible material, such as aircraft cabinetry.

In aircraft interior refurbishment, aircraft cabinetry is removed, stripped of the old veneer, cleaned, and primed. Customers can select a solid base color, which will show through the the patterned film, creating a unique appearance.

A repeatable pattern is printed onto the water-soluble film and laid on top of the water. An activator is sprayed onto the film, making the ink pliable and able to adhere to the cabinetry when it is dipped. After dipping, the items are rinsed, dried, and sprayed with a protective clear coat.

Some aircraft cabinetry components cannot be hydro-dipped due to size or difficulty removing from the aircraft. In these instances, sheet metal



pieces may be dipped and attached to the cabinetry components.

## What Aircraft Interior Components Can Be Hydro-Dipped?

Generally, any cabinetry item in the aircraft can be hydro-dipped. Cabinetry components consist of composite material, which is suitable for dipping. These items include:

- Accent Pieces
- Bulkheads
- Cabinets
- Countertops
- Doors
- Drink Rails
- Lavatory Sinks
- Seat Trays
- Sidewalls
- Tables

*Note on Sidewalls: Sidewalls may be more susceptible to wear, requiring frequent cleaning due to touching or rubbing against the surface. As a result, hydro-dipping sidewalls may need refurbishment sooner than other cabin areas.*

## What are the Common Aircraft Hydrographic Film Patterns?

Hydro-dipped cabinetry can transform your aircraft interior by replicating the appearance of wood veneers, stonework, carbon fiber, or specialized patterns. A hydrographics vendor may also offer unique prints, including shapes, stripes, skulls, flags, flowers, flames, etc.

## Can You Create Custom Aircraft Hydrographics?

You can create custom aircraft hydrographic film to achieve specialized patterns or incorporate company logos. Hydrographics vendors may



*Hydro-dipped Sink with a Marble Appearance*



help you create eye-catching patterns that complement your aircraft's interior design and theme. Then, the hydrographics company will approve the custom design and print the film.

## *Minimum Order Size*

If you decide to create a customized hydrographic film, keep in mind that there might be a minimum order size. The minimum order size may provide enough film for approximately 10-15 aircraft. In this case, customizing hydrographic film may be beneficial for consistent appearances and branding when undergoing a fleet-wide aircraft interior refurbishment (e.g., a fleet of semi-private jets).

## **How Durable are Aircraft Hydrographics?**

Although hydrographic films will not fade or

wear, the exterior clear coat may require occasional refurbishment, accomplished with a sand-and-refinish (also known as scuff-and-buff) process. When done properly, this process will not affect the hydrographic film.

However, if the clear coat is damaged and cracks appear that reach down to the hydrographic film, the aircraft cabinetry must undergo the hydrographic process again to ensure a durable finish.

For long-lasting results, apply the hydrographic film to cabinetry that is in good condition. For instance, old veneers should be removed from the cabinetry surface. Otherwise, the hydro-dipped surface will be removed along with the veneer surface if the veneer is stripped off the cabinetry later.



*Hydro-dipped Tray Table with a Woodgrain Appearance*



## Are Aircraft Hydrographics Cost-Effective?

Hydro-dipping is a cost-effective alternative to traditional veneer finishes for aircraft cabin interiors. Generally, aircraft hydrographics cost 10-20% less than a new veneer installation.

## What is the Downtime for Aircraft Hydrographics?

Applying hydrographic films to the aircraft's cabinetry can take approximately 6-8 weeks, depending on the aircraft type and how much of the interior is being hydro-dipped. In comparison, a new veneer installation can take 8-12 weeks.

## What to Look For in an Aircraft Hydrographics Shop?

When looking for an aircraft interior shop capable of hydro-dipping, determine if the company is certified for applying hydrographic finishes by a hydrographic film company and ask to see samples

of their work. Quality aircraft hydrographics should have a consistent appearance (i.e., the pattern is facing the same direction on cabinetry components), and there should not be any cracks, bubbles, or visible distortion in the film.

## Aircraft Hydrographics Vs. New Veneer Installation

In conclusion, aircraft hydrographics offer various benefits compared to new veneer installations. Hydrographics are more cost-effective with shorter downtime while still providing executive-level appearances. Transfer film printing is also easily replicated in the future in case of repairs, unlike wood veneers. Finally, hydrographics offer an extensive selection of pattern options compared to veneer, ranging from traditional woodgrains to marble, carbon fiber, and specialized prints, allowing you to customize a completely unique interior.



*Hydro-dipped Guitar Created By C&L as an Example of Their Work*



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