

Jet Manufacturer Flies High with UV



By Bill Sparks

Dassault is a French based aerospace company that specializes in commercial and military aircraft. Its business jet division has more than 1,700 aircraft in over 70 countries. Dassault-Falcon Jet's primary completion center is in Little Rock, Arkansas.

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-Michael Beavers,
Cabiner Shop Manager,
Dassault-Falcon Jet

From the cozy Falcon 50 EX to the stylish Falcon 2000, customers will find beautiful wood veneers that were finished with UV curing technology. If you are going to soar above the clouds, you might as well fly with the gods.



Stylish interior of a Falcon 2000

Dassault-Falcon jets melt the line between man and machine, so at the end of the day, they soar as if they are one.

Introduction

Throughout the history of Dassault-Falcon, there has been a number of firsts. Dating all the way back to 1915, they became the first to put a scientifically designed propeller into mass production. Other firsts include:

- ◆ In 1953, they became the first European aircraft capable of supersonic flight at low altitude.
- ◆ In 1972, they created a 3-D wind design for a business jet.
- ◆ In 1976, they used carbon fiber in a vital component of a civil aircraft.
- ◆ In 1983, they designed the first business jet by computer.
- ◆ In 1987, they became the first aerospace company to use UV-curing technology on wood veneer.

UV Benefits

In the business aircraft arena time is money. A major portion of the business jet's production is spent on the interior. Waiting on a coating to dry



Table with UV finish adds to the dining experience

is not a good thing when it comes to multimillion dollar jets. Michael Beaver, a cabinet shop manager who has worked extensively to modernize the UV-application process, recently spoke at Radtech e5 conference. "Customers typically desire a full build, high-gloss finish, so multiple coats are required to achieve this. Having a UV system makes this process much faster. UV curing prevents the cabinet finishing process from delaying the aircraft flow. The aircraft are 20 million and higher, so reducing the number of days that they are in work is big money in terms of inventory and cost. It is also great to have a process that when those last minute emergencies arise, parts can be expedited through the UV finishing process to prevent delays."

The other big reason for having a UV finishing line is the production quality.

Dassault Falcon Jet is accustomed to providing their customers with top of the line quality, and their finished coating is no exception. The coating is very resistant to wear and damage. In Beavers opinion "Looking at the various aircraft finishes in the field, there is a noticeable difference"



UV Finishing provides top of the line quality for cabinets and panels.

Challenges

For those who have been lucky enough to sit in a Dassault-Falcon business jet, the aircraft interiors are a work of art. The trick is to combine this art with science. Beavers describes, "Because of the nature of the business, perfection is demanded. When a customer pays that much for an aircraft, they expect perfection. There is a tremendous amount of work that is required to deliver an aircraft. For instance, each customer approves a sample from which the entire aircraft must match the sample for color and appearance... not an easy task with wood veneer." Dassault has a very unique UV application process. Typical UV processes are flat line systems with high production rates. Dassaults application has neither. Beaver explains,

“There is a wide array of sizes and shapes for parts on an aircraft, so this posed quite a challenge to develop a system with the coating suppliers and the equipment manufacturers that would provide the desired end-product. This has improved over the last 16 years, but the basic concept is the same, - a special UV curing chamber was developed that surrounds rotating parts. Relatively low energy curing is applied, which allows for the various sizes and shapes.”

In addition, having this product on an aircraft adds other issues to the mix.

The Federal Aviation Administration (FAA) requires all aircraft to undergo rigorous burn tests. Essentially, tests are performed to demonstrate that if the cabin was to catch fire, the fire would self-extinguish without the flame source. Plus, the coating must be able to withstand incredible changes in temperature and pressure.

A plane may be sitting on a runway in Phoenix where temperatures can be more than 110 deg. F then two hours later be in freezing temperatures in Alaska.

Summary

For more than 16 years, Dassault Falcon Jet has been using UV curing for its interior wood veneers, “The UV coating provides Dassault Falcon Jet with important advantages in the industry.” Beavers says. “Durability, efficiency and reduced process time were the key factors in the decision to go with UV technology.”

-Bill Sparks is director of Business Development at Ultraviolet Systems, Houston Texas