

A large aircraft engine is shown in a hangar, with its complex internal components visible. The engine is mounted on a yellow support structure. The hangar's blue steel framework is visible in the background.

Simplify Your Aerospace Painting Process with Precision Converting

A new process to increase efficiency and decrease operational costs across the board

A close-up view of an aircraft's landing gear, showing the wheels and the complex mechanical structure of the struts and landing gear assembly. The aircraft is on a tarmac.

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While the aerospace industry took a massive hit during the height of the pandemic, it is steadily bouncing back. There are a number of key trends affecting the industry today and likely for the future—with innovation and cost-saving techniques at the forefront.

Precision Converting has partnered with 3M to develop a revolutionary new aircraft painting kit designed to increase efficiencies and decrease operational costs during the painting or re-painting process. In this whitepaper, we'll explore the current state of the aerospace industry and how Precision Converting can help deliver cost-saving innovation for one key operational process.

Aerospace Trends And Projections

As the world came to a halt nearly overnight, 2020 marked one of the worst years on record for the aerospace industry. Supply chain and other commercial interests shuttered, consumer travel became virtually non-existent, and many of the world's airline manufacturers sent their fleet into storage.

Two years on, the industry has not quite rebounded to pre-pandemic levels, but all the signs are positive. According to PWC's Global Aerospace and Defense: Annual Industry Performance and Outlook

for 2022, industry revenue is up 4% to \$712 billion, deal value has doubled to \$100+ billion, and \$62 billion of operating profit marks a 136% increase compared to 2020.

There are a number of trends fueling growth and affecting the industry into 2022 and beyond:

Consumer travel: With the pandemic slowly fading away and companies reducing or eliminating mask mandates, consumer travel is rocketing back. PWC notes that RPKs are rising steadily in 2022, with total consumer traffic in February up 115.9% compared to last year's numbers. They note that while an increase in consumer travel is imminent, full recovery to pre-pandemic levels of travel is estimated to occur in 2023 or 2024. Adding a dash of uncertainty to those numbers is the recent chaos with flight cancellations, staffing shortages and other factors inconveniencing travelers.

Increase in airplane manufacturing: A solid indicator to determine the status of the aerospace industry is to take a look at pending orders and deliveries from some of the top airline manufacturers. According to the numbers provided by PWC, Boeing delivered more than double the amount of aircraft in 2021 compared to 2020, while Airbus saw an 89% increase in net orders.

Decarbonization efforts: Worldwide decarbonization efforts aren't simply restricted to the oil and gas industry. After being called upon by the public in the early part of the decade to lower emissions, eco-friendly innovations are on the mind of many of the industries' top players. In one example, Airbus has announced three concepts for the world's first zero-emission commercial aircraft—a product they hope will come to fruition by 2035.

Innovations and cost savings: Launching eco-friendly products isn't the only opportunity for innovation, as companies in the industry are also seeking to improve efficiencies and lower operational costs across the board. Aerospace executives are feeling the pressure

from the public to lower emissions, and shareholders to keep operations profitable. Innovative technologies and methods are being welcomed to help the environment and a company's bottom line.

All of these trends point toward a strong rebound for the aerospace industry in the coming years. But just because innovation is welcomed doesn't mean useful innovation will magically appear. Independent manufacturers are still working tirelessly to make meaningful impacts on the bottom line of many of aerospace's top OEMs—a process that we take to heart at Precision Converting.

As a leading player in the aerospace converting field, we at Precision Converting can work with you to explore new possibilities. For years, our experts have been helping companies like yours with customized parts, exceptional service and engineered materials from the industry's most trusted vendors.

Now, after careful development with our long-standing partner 3M, we have developed an innovative aerospace painting solution that is designed to revolutionize your operations. Let's look at that in more detail.

Key Challenges Of The Current Aerospace Painting Process

Aerospace OEMs know that planes need to be stripped and repainted periodically. You also know that this is a tedious, labor- and material-intensive operation. The traditional methods involve masking airplane windows with protective materials such as yellow tape, aluminum foils or papers. This process is traditionally done by hand, which necessitates extreme precision and an extensive time commitment.

Overall, this current method is sub-optimal for three main reasons:

Challenge 1: Time

As with any labor-intensive operation that needs to be completed by hand, stripping and repainting an airplane takes time and employee resources away from other more important aspects of your business. This is exacerbated by the fact that extreme precision is needed on the employee's part to ensure no paint or chemicals tarnish the windows, and no area of the hull misses a layer of paint. Overall, this process is tremendously time-intensive.



Challenge 2: Operator Efficiency

Due to the fact that precision is paramount in the painting process, more seasoned, experienced employees are preferred to handle this task. But that's a problem. It reduces the potential labor pool your company can draw from to complete a repainting operation because any mistake in painting—no matter how small—can amount to serious time and budgetary setbacks.

Challenge 3: Overhead

More labor, more time, more materials, more money. Performing a stripping and repainting process without our method leaves your business with more labor hours and more material costs and waste. This process hurts your bottom line, and that's not even counting any employee mistakes that amount to window replacements or repainting operations.



The Precision Converting Solution

Thankfully, there is a better way.

At Precision Converting, a division of Hisco, we have leveraged our converting capabilities, 3M partnership and materials science expertise to create chemical-resistant, pre-cut materials that can perfectly match the shape of an airplane's windows. Think of it as a kit, perfectly matched to your window specifications.

By partnering with Precision Converting and utilizing our revolutionary method, you will see tremendous improvements to your stripping and repainting operations, in a reduction of employee labor hours and in material costs.

We solve the three main challenges of the current aircraft painting process in the following ways:

Solution 1: Time Reduction

Instead of taping windows by hand, simply send us the measurement of each window of the airplane model in question, and we will send a set of pre-cut, ready-to-apply window protection materials.

This saves your business a tremendous amount of time. Rather than having an employee manually applying multiple layers of protective materials during the

repainting process, simply attach our perfectly measured, chemical-resistant cover to the outline of the window and you are set until the job is done.

Solution 2: Increased Operator Efficiency

Due to the fact that our window kits are perfectly measured, employees will no longer have to spend countless hours manually taping and protecting airplane windows during the repainting process. Once our kit is placed on each window—which, in itself, takes significantly less time than taping or applying other protective materials by hand—your employees are free to complete the painting process without worrying about precisely re-taping windows.

Solution 3: Overhead Reduction

When you partner with Precision Converting and utilize our window protection method, you are saving valuable labor hours and material costs that directly impact your bottom line. Employees are no longer spending countless hours painstakingly covering airplane windows with

perfectly lined-up tapes or other protective materials. Simply place our perfectly measured window cover on all the airplane windows, and complete the repainting job with ease.

For more information about how our kits can revolutionize your process, read our case study "Fabricated composite layup kits help manufacturing throughput soar."

In a nutshell, this case study is the story of how an industry-leading aerospace manufacturing firm approached Precision Converting with their concerns surrounding throughput, operator efficiency and overhead. Using specifications provided by the OEM, our team of engineers worked alongside the company to fabricate various materials into custom shapes including bagging film, release film, breather and adhesive film to create kits. The resulting kits delivered significant time and costs savings for the OEM, and served to eliminate much of the customer's existing bulk inventory.

Precision Converting's Full Line Of Aerospace Solutions

In addition to the window protection kits, Precision Converting can offer a variety of other cost-effective solutions for your OEM aerospace company. Some of our main capabilities in the aerospace industry include:

Structural bonding and masking: We stock aerospace epoxy adhesive products for a wide range of applications including depot level and field repair bonding, composite repair and liquid shim applications. All of these adhesives adhere to stringent aerospace manufacturer specifications and requirements including cold temperature storage, shelf life limitations, labeling, documentation and user-friendly packaging. In addition to epoxies, we can supply bonding and masking tapes that include fabrication solutions like die-cut parts and sheeted goods, as well as masking materials for protection during stripping, handling and shipping.

Surface treatment and conditioning: We can provide specialty cleaning agents and conversion coatings for multi-stage technology metal processing. In addition to environmentally safe cleaning agents for manufacturing, maintenance and overhaul, we can supply carbon removers, paint strippers and primers for metallic and non-metallic substrates. Surface cleaning and conditioning options include quality-engineered abrasives with an extended life for increased productivity and cost reduction.

Coatings and insulation: We are a supplier of military and commercial aircraft corrosion inhibiting primers and topcoat paint products as well as PSA laminates that can be easily applied to specification and conformal coatings with heat cure, UV cure and room temperature cure options. Additionally, we can supply insulation solutions including polyimide, polyester and other dielectric materials—many of which are available in die-cut parts, rolls and sheets.

The Precision Converting Difference

For nearly 35 years, Precision Converting, a division of Hisco, has been a manufacturing and assembly leader in the aerospace industry, and we can bring a wealth of experience and a track record of excellence to your operations.

Whether you are in the market for one of our many aerospace solutions, or you are in need of our revolutionary window painting kit, contact our experts today to get started with the Precision Converting Difference.

For more information about our aerospace window painting kits, or any other aerospace solution we provide, please visit www.precisionconverting.com

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