

About the Customer

A leading aerospace manufacturer was in the process of redesigning the composite wings on their passenger aircraft. As part of the redesign, they wanted to replace heavier metal fuel and hydraulic line clamp assemblies with a lighter plastic polymer.

The Challenge

Machined PTFE (Polytetrafluoroethylene) and injection molded PFA (Perfluoroalkoxy alkanes) have been used – albeit to a limited extent – to create select aircraft components. However, with the aerospace industry moving towards lighter, more fuel-efficient planes, a larger potential market for fluoropolymers is developing.

To be viable, the new clamp assemblies the customer was requesting needed to be non-flammable and non-reactive to jet fuel, as they are completely immersed within the aircraft's fuel tank. The components would also need to have high lubricity (not generate too much friction), given that the fuel and hydraulic lines slide through the clamp inserts as the wings flex in flight.

The Solution

Savillex engineers found that fluoropolymers – molded PFA, in particular – were the only materials that had the required non-flammability and lubricity properties for use within aircraft wings. PFA is also resilient enough to survive working temperatures as low as -200°C and as high as 260°C.

In partnership with our aerospace customer, Savillex designed and created custom molded PFA clamp inserts to support fuel and hydraulic lines within the redesigned composite wings.

Beyond an aircraft's fuel or hydraulic system, other logical places for fluoropolymers could include electrical connectors, bearings, and fasteners, as well as lavatory and gallery accessories.



Challenge: Large aerospace manufacturer having difficulty sourcing custom-made plastic polymers for aircraft redesign.



Solution: A custom engineered PFA product was designed to meet all requirements.



Result: Savillex now has the ability to custom create many aerospace components, precisely and cost-effectively, using molded PFA.

The Result

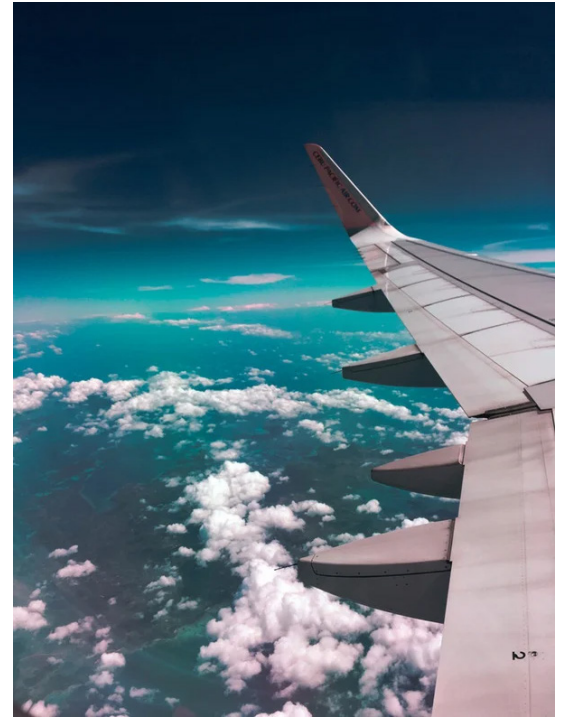
Any component used in aerospace that is currently manufactured from machined polymers has the potential to be made more cost-effectively, quickly, and precisely with molded PFA.

Savillex also provides expertise in designing specialized tooling, so that complex PFA components can be manufactured at lower per-unit costs than machined PTFE parts. The PFA molding process can also be scaled up or down depending on part demands, while maintaining tight quality control and flexibility.

Your Partners in PFA

Working in partnership with you, Savillex engineers will develop an in-depth understanding of your application and part requirements, while also identifying opportunities for improvements and enhancements where applicable.

Interested in learning more about how PFA can be customized to fit your specific applications? [Visit our website](#) for more information about Savillex custom services in aerospace and beyond.



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