



P A R K
E L E C T R O C H E M I C A L
C O R P .
an Aerospace Company

ADVANCED COMPOSITE STRUCTURES



First Production Conforming Scorpion Jet taking off for its Maiden Flight on December 22, 2016



New Business Jet Turbopan Mounted on Testbed Fairing Built by Park



Park's SIGMA STRUTS™ were chosen for NASA's Space Shuttle



Park Electrochemical Corp. designs and manufactures advanced composite preregs and composite structures for the aerospace industry.


DESIGN

Advanced composite materials offer a unique opportunity for aerospace engineers to design and build products that can be tailored to the exacting requirements demanded by modern aircraft designs.

Park's objective is to use its design, materials and manufacturing expertise to assist its customers in developing the best possible solutions for their aerospace requirements. As a developer and manufacturer of both advanced composite materials and parts, Park has a unique position in the aerospace industry. Park's in-depth knowledge of composite materials and their properties enhances Park's ability to design and manufacture composite structures.

Engineering Capabilities:

- Structural Analysis
- Loads/Stress
- Designated Engineering Representative (DER) Sign-off
- Materials Properties & Selection
- Design for Manufacturing
- Co-curing Techniques
 - Control Surfaces
 - Winglets
 - Fairings
 - Access Doors
- Tooling
- CATIA V5 & Vistagy FiberSIM®



ALPHA STRUT™

ALPHA STRUT™ and SIGMA STRUT™ are Park's proprietary strut designs which provide significant weight savings and load carrying reliability compared to metal struts and other composite struts by utilizing unique metal end-fittings, which are co-cured into each end of the struts without the use of adhesives. This technique allows the fittings to transfer the full load through the strut body without having to rely on bond areas to carry shear loads as with typical designs.

The ALPHA STRUT is designed for aircraft and other aerospace medium to high load bearing appli-



SIGMA STRUT™

cations. The SIGMA STRUT is designed for space and other aerospace very high load bearing applications.



ALPHA STRUT™ and SIGMA STRUT™

FABRICATION

Park Aerospace Technologies Corp. (“PATC”) is Park’s new advanced composite prepreg and parts manufacturing and design facility located in Newton, Kansas. The PATC facility contains approximately 90,000 square feet of composite materials and parts manufacturing and laboratory space and is equipped for prototype development to production. The facility has a 7,500 square foot clean room outfitted with computerized ply-cutting and laser projection ply-locating systems. A separate area, complete with a 5-axis router, is dedicated to core cutting and preparation. The facility’s curing capabilities range up to 850°F



Park Aerospace Technologies Corp. in Newton, Kansas

for autoclave curing and up to 500°F for oven (out of autoclave) curing. Upon completion, parts are trimmed on a second 5-axis router and finished in the assembly area in accordance with the customers’ specific requirements.

Fabrication Equipment and Capabilities:

- Two Computerized Cutting Tables
- Laser Ply Projection Systems
- Two Autoclaves (up to 6’ x 20’)
- Multiple Ovens (up to 12’ x 8’ x 45’)
- Two 5-Axis Routers
- Chemical, Physical and Mechanical Test Laboratory

Park works with its customers on:

- Quick-turn projects which may require innovative tooling techniques
- Short schedule projects where our material capabilities result in lead times measured in weeks instead of months
- Large production runs



12 Ft. by 8 Ft. by 45 Ft. Dual-Zone Oven



Computerized Cutting Table

ASSEMBLY

The final step in the product build is the assembly of parts and hardware into a final component or subassembly. It has become more common for customers to require finished assemblies. To meet those requirements, Park has dedicated a section of the PATC facility to final assembly. Final Assembly capabilities include bonding, close tolerance/precision drilling, riveting, sealing and final inspection before release to the customer.



UAV Weapons Pylon

QUALITY CERTIFICATIONS

Park has obtained quality and process certifications including:

- ISO 9001:2008
- AS9100
- Nadcap



Winglet for New Business Jet

ABOUT PARK

Park Electrochemical Corp. is an Aerospace Company which develops and manufactures solution and hot-melt advanced composite materials used to produce composite structures for the global aerospace markets. Park's advanced composite materials include film adhesives (undergoing qualification) and lightning strike materials. Park offers an array of composite materials specifically designed for hand lay-up or automated fiber placement (AFP) manufacturing applications. Park's advanced composite materials are used to produce primary and secondary structures for jet engines, large and regional transport aircraft, military aircraft, Unmanned Aerial Vehicles (UAVs commonly referred to as "drones"), business jets, general aviation aircraft and rotary wing aircraft. Park also offers specialty ablative materials for rocket motors and nozzles and specially designed materials for radome applications. As a complement to Park's advanced composite materials offering, Park designs and fabricates composite parts, structures and assemblies and low volume tooling for the aerospace industry. Target markets for Park's composite parts and structures (which include Park's patented composite Sigma Strut and Alpha Strut product lines) are, among others, prototype and development aircraft, special mission aircraft, spares for legacy military and civilian aircraft and exotic spacecraft. Park's objective is to do what others are either unwilling or unable to do. When nobody else wants to do it because it is too difficult, too small or too annoying, sign us up.

CONTACT INFORMATION

Telephone:
Newton, KS +1.316.283.6500

Email:
info@parkelectro.com

Web:
www.parkelectro.com



Park Aerospace Technologies Corp. • 486 N. Oliver Road, Building Z • Newton, Kansas 67114

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