SHAPES & STRUCTURES

- satellite battery containers
- antenna components
- space shuttle parts
- filament wound nose cones
- reinforcing rings
- thin-walled air/spacecraft tubing
- space/launch vehicle structural
- aircraft ducting and skins
- composite honeycombs
- hydraulic cylinder overwraps
- ordnance launch tubes
- composite tank tracks
- optical mounting assemblies
- cryogenic tubes and tanks
- radar components
- radomes (sub, ship and land)
- magnet cores and coilforms
- directional heat shields
- computer peripheral parts
- lightweight industrial rolls
- undersea geophysical
- down well tubing
- drill pipe/sucker rods
- high speed rotors
- pressure vessels
- ultracentrifuge
- automotive drive shafts
- electric vehicle components
Myriad complex shapes and structures... composite drive shafts... carbon fiber rollers... pressure vessels... oil field tubulars—the areas of ACPT product design and manufacturing on which it has built its reputation for total product dependability and manufacturing excellence for over a quarter of a century.

For more than 25 years, Advanced Composite Products and Technology, Inc. (ACPT) has been providing custom development and fabrication of advanced composite hardware for research, commercial, government and private institutions. Using materials including graphite, glass, aramid and other reinforcing fibers together with epoxies, polyesters, thermoset matrices and various thermoplastics... ACPT has engineered a diverse array of advanced product applications. Undersea... underground... on land... in the air... and in outer space, ACPT products have proven themselves superior, time and again. ACPT has designed, analyzed and fabricated many complex shapes, working from room temperature... to cryogenic... to critical elevated temperatures.

The company houses some 30,000 sq. ft. devoted exclusively to composite manufacturing with a focus on filament winding, resin formulation, laminate lay-up, composite machining, finishing and clean room preparation of finished goods. You can be confident that ACPT knows composite design and fabrication—like no one else.
SERVICES

- full run production capability
- prototype fabrication
- manufacturing process development
- advanced composite design
- design analysis through FEA
- manufacturing/design coordination
- filament winding
- composite fabrication
- machining and finishing
- manufacturing troubleshooting
- clean room environment
- testing and quality assurance
ACPT began by designing and building filament wound graphite tubing for down well applications. Its focus and capabilities quickly expanded to meet the high performance requirements of the aerospace industry, involving nearly every type of composite fabrication technique known. While continuing to excel in tubular products, pipe and pressure vessels, ACPT has developed and built commercial product lines for power transmission shafts for automotive, truck, and industrial applications, and rollers for printing, paper and converting industries. ACPT’s technical staff are experts in composite design and related technologies—from design and analysis through production, quality control and marketing. Engineers rely on computer aided design and ACPT’s vast experience with composites to turn out innovative and cost-effective solutions to tough and challenging real world problems. Whatever your advanced composite product needs may be—from some friendly assistance to full production of specific hardware, we can help save you time, trouble and cost—when you need a composites expert—ask the pros at ACPT.
EQUIPMENT

CNC MULTI-AXIS FILAMENT WINDING MACHINES
PRESSURIZED LAMINATION CLEAN ROOM
REMOTE CENTRALIZED VACUUM SYSTEM
VACUUM MIXER
AUTOCLAVE CURING
AIR CIRCULATING OVENS
LAB AND VACUUM OVEN
FULL MACHINE SHOP
WALK-IN FREEZER FOR PREFREG AND ADHESIVE STORAGE
HYDRAULIC MANDREL PULLER
MEASURING & RECORDING DEVICES (MIL-STD-45662)
AEROSPACE QUALIFIED TOOLING AND MATERIAL STORAGE
MANUFACTURING

Top center: ACPT has produced filament wound composites for numerous rocket components. Shown here, Apollo 11 launch at Kennedy Space Center.

Left: Various views of the filament winding process showing a complex wrapping of an ablative chamber for a primary stage rocket engine.

Below: Roller product on multi-axis CNC filament winding machine capable of handling product up to 40 feet in length and 12 feet in diameter.

Both art and science—the filament winding fabrication process produces accurate laminates with repeatability and efficiency. Filament winding capacities range from a multi-spindle 3-axis machine to a 4-axis machine capable of winding parts up to 40 feet long and 12 feet in diameter. ACPT produces low-void laminates using computer-controlled processes that deliver outstanding performance and fatigue properties.

Paying close attention to resin content, band-width, fiber placement and lamina thickness, ACPT monitors and controls every parameter to ensure its customers the highest quality results and finished product possible. ACPT’s knowledge and experience in filament wound manufacturing are unmatched. If you can dream it…we’ll build it.
PRECISION MACHINING

Cutting
Grinding
Boring
Milling
Turning
Drilling

Technical expertise...
...unmatched Experience
Ingenuity & innovation
ACPT’s finishing operations are manned by seasoned pros in precision grinding, deep boring, cutting, drilling and milling. With full machining capabilities and equipment including lathes up to 31 inches swing and 44 inches in the gap with 20’ between centers, milling machines, centerless grinding, saws and drill presses…ACPT has the equipment and expertise to perform virtually any precision machining and finishing operation required.
QUALITY ASSURANCE

ACPT maintains a pressurized clean room facility equipped with a remote centralized vacuum system and vacuum mixer for contamination-free vacuum molding and bonding of critical composite parts and components. The company conforms to Management System Standard: ISO 9001:2000 and EN/JISQ/AS 9100:2004 and has been audited according to the requirements of AIR S3598, certified by Det Norske Veritas Certification, Inc., Certificate No. CERT-07941-2005-AQ-HOU-ANAB.


Above: Aerospace parts being vacuum sealed in ACPT’s pressurized clean room facility.

Left: ACPT designed the composite tail-rotor drive assembly for this rotary-winged UAV.

Right: Photo of International Space Station.

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Satisfied ACPT customers include...

Lockheed Martin
General Dynamics
Goodrich
Department of Navy
Boeing
JPL
NBS
Loral
Northrop Grumman
ITT
BALL
AT&T
Martin Automatic
Department of Energy
Kimberly Clark
Quantum Design
Adel-Wiggins
Parker-Hannifin

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