



# Composite Rollers & Coreshafts

25 Years of Manufacturing Excellence



**Advanced Composite Products and Technology, Inc.**



## ACPT COMPOSITE ROLLERS

A core **ACPT** capability—the filament winding fabrication process produces accurate laminates with repeatability and efficiency. 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** knows it can meet your composite roller needs whatever they may be. We produce low void laminates using computer-controlled processes that deliver outstanding performance and fatigue properties. Paying close attention to resin content, bandwidth, fiber placement and lamina thickness, we carefully control all parameters to ensure our customers the highest quality possible.

**ACPT** has been designing and manufacturing composite rollers—longer than any competitor and almost from the inception of the company. Our knowledge of composites and our experience with roller design and manufacturing are unequaled. We routinely achieve what others consider impossible. If you can dream it. We can design it...and build it.

***ACPT can economically custom design and build composite rollers to maximize performance for weight, inertia...critical speed and deflection for your most demanding applications.***



## BUILT BETTER TO LAST LONGER

### ADVANTAGES

- ▼ LOWER MASS
- ▼ LOWER TORQUE
- ▼ LOWER INERTIA
- ▼ LOWER TENSION and Wrap Angle

### BENEFITS

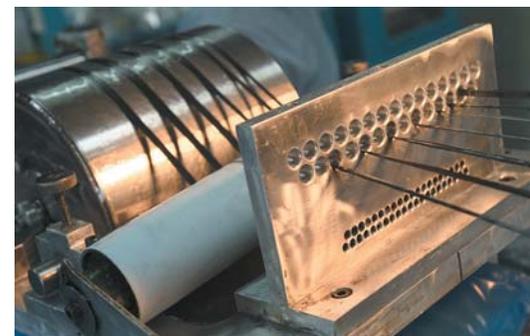
- Lower torque needed for speed changes
- Reduced web damage and web failures
- Reduced need for synchronizing drives and controls



## Custom Design

- Design Engineering
- 3D CAD Modeling
- Product Prototyping
- Technical Expertise

## Custom Carbon Fiber Composite Rollers & Coreshafts



## Production

- 3 and 4 Axis Machines
- Computer Controlled
- Up to 40' Lengths
- Up to 12' Diameters

## CURING

All parts are cured using computer-controlled ovens. Each heat cycle is logged and recorded for traceability to origin and to ensure complete reaction of resin components.

## EXTRACTION

Mandrel extraction occurs once the parts are fully cured. The hard tool must be separated from the wound component before further processing. Mandrels are either pushed or pulled to separate the part using various hydraulic methods.



## Coatings

- Rubber
- Metal Spray
- Ceramic
- Grooved
- Low Abrasion
- Plasma Spray
- Plated
- Textured
- Glass
- Urethane
- Sleeved
- Custom

## BALANCING

Computer-aided balancing instrumentation and software provides critical data to the operator ensuring fast and accurate imbalance correction. All dynamic balancing is conducted in accordance with ISO 1940 G2.5 as standard.

## Quality Assurance

**ACPT** conforms to Management System Standard: ISO 9001:2000 and EN/JISQ/AS 9100:2004 and has been audited in accordance with the requirements of AIR 5359B as certified by Det Norske Veritas Certification, Inc. Certificate No. CERT-07941-2005-AQ-HOU-ANAB.



ISO 9001 : 2000 • AS 9100 : 2004 CERTIFIED

...Lower Operating Costs.

## PRECISION MACHINING

Precision composite machining is a key **ACPT** capability. Cylinders are trimmed to precise lengths. All parts are inspected prior to bonding and assembly. Finally, each roller is precision ground to exacting tolerances to meet our customers' specifications and industry standards.



**Accuracy...Repeatability...Efficiency**

## Finishing

- Inspection
- Bonding & Assembly
- Surface Grinding



## WEB TOUGH & DEPENDABLE

**ACPT** composite rollers have shown up in the most severe environments, like the wet end of paper machines. The increased corrosion resistance and reduced weight of composite rollers have improved both process reliability and product consistency. Many manufacturers of non-woven web materials operating 24/7, rely on **ACPT** composite rollers to extend bearing life and seal life while also reducing overall vibration and lowering the required number of operator adjustments to maintain ideal process parameters.

Converting machinery OEMs frequently use **ACPT** composite rollers to improve web quality, production rate and performance.

Delicate, non-woven web materials benefit from the use of composite rollers in many ways. First, the lower mass of the composite roller reduces the torque required to affect speed changes. The lower torque requirement reduces the wrap angle and tension necessary to develop the torque needed to accelerate or decelerate the roller.

These lower torque and tension requirements help prevent web damage and web failures, and may even eliminate the need for drive mechanisms and the electronic controls used to synchronize the roller with the web speed.

Choose **ACPT** custom composite rollers for higher web performance and lower operating costs—they can make all the difference.



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