

## B-stage UV curing for filament wound carbon fiber parts Increased production and capital utilization

ACPT, a manufacturer of advanced composite products for aerospace, government and commercial institutions, uses Heraeus Noblelight's microwave-powered UV curing systems to speed the curing of epoxy resin and carbon fiber filament wound parts.

Located in Huntington Beach, CA, Advanced Composite Products and Technologies (ACPT), uses UV curing in their filament winding operations. Since 1977, ACPT has been providing custom development and production of advanced composite parts using materials such as graphite, Kevlar, glass and other reinforcing fibers in combination with epoxies, polyesters and other matrices for many diverse applications from submarine to outer space.

ACPT uses a Heraeus Noblelight microwave-powered UV curing system to provide a partial B-stage cure following filament winding of a cylindrically shaped part. The part is made using epoxy resin with fiberglass and carbon fiber. This partial B-stage UV cure takes only 30 seconds allowing secondary processing to begin quickly. The UV curing lamp was easily retro-fitted onto an existing filament winding machine, on a carriage so that the entire length of the part can be quickly exposed to the UV light as the mandrel rotates.

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*"If we didn't use the UV lamp to do the partial cure, the part would have to sit overnight before we could proceed with the additional processing steps. The UV cure significantly increases our productivity for this part." -- Clayton Terry, Program Manager for ACPT*

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### Benefits

- Increased production rates
- Reduced work-in-process
- Increased capital utilization due to more parts per mandrel

### Technical Data

- 10-inch microwave-powered UV lamp system with D bulb
- UV lamp head mounted to carriage travels along mandrel to expose entire part surface
- 30 seconds to B-stage cure epoxy resin

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