

## West Ohio Tool Success Spotlight

# How We Help Our Customers #GainTheEdge

**Client Industry:** Aerospace

**Part Production:** Aircraft Structural Components

**Material:** CFRP/aluminum Composite

**Challenge:** A western U.S. aerospace manufacturer was drilling hundreds of 5.63 mm diameter holes in aircraft structural parts made of sandwiched 10 mm thick carbon fiber reinforced plastic (CFRP) and 4 mm thick aluminum plate. Drilling CFRP requires tool geometry engineered to make a clean entry into the work without delamination. Aluminum is not especially hard, but its machining characteristics differ from CFRP and the goal was to produce a clean, burr free hole exiting the metal. The mix of materials wore carbide drills quickly, so the manufacturer applied a drill that combined a carbide drill body with a polycrystalline diamond (PCD) insert tip. The manufacturer was not satisfied with the cost per hole and sought a less expensive alternative.

**Solution:** West Ohio Tool's EdgeX4™

PCD/carbide drill with solid wafer cross-center tip and custom designed geometry

**Results:** Contacted by the manufacturer's tooling integrator for help, West Ohio Tool knew its EdgeX4 drills would provide the needed accuracy, tool life and economical operation. EdgeX4 drills feature a unique solid wafer PCD cross-center tip, bonded to the carbide drill body via a proprietary process. In addition, West Ohio Tool prides itself on providing tools that immediately and reliably fill customers' specific needs. Accordingly, it invested R&D effort and testing time in fine-tuning the tool tip geometry to assure clean entry and exit in the multilayer workpiece while maximizing accuracy and tool life. The aerospace manufacturer determined after extensive testing

West Ohio Tool's EdgeX4 cross center tipped design performed on par or better than the current supplier's full nib design, but at a much lower cost per hole. In addition, they discovered they saved significant time with delivery time by using West Ohio Tool which in turn significantly lowered tooling inventory costs.



- Innovative drill cutting edge design
- Fine-tuned tip geometry tailored to the customer's specific application
- Increased drilling reliability and performance for CFRP sandwiched materials
- Longer drill life and increased accuracy
- Lower cost per hole
- Significantly shorter delivery times

Contact us today to find out how West Ohio Tool can help you #GainTheEdge.