

# TAKING SUPERABRASIVES TO NEW HEIGHTS



AEROSPACE CAPABILITIES



**abrasive  
technology**

[www.abrasive-tech.com](http://www.abrasive-tech.com)



# THE DIAMOND STANDARD FOR



-  INDUSTRY EXPERTISE
-  INDUSTRY CERTIFICATIONS
-  PATENTED TECHNOLOGY

Abrasive Technology manufactures high-precision superabrasive products for aircraft and airframe manufacturers. Our wide range of diamond and cBN wheels, tools and coatings are designed, bonded and produced with your specific applications in mind.

We understand aerospace manufacturers and the challenges faced in today's hyper-competitive environment. Our dedicated aerospace lab will meet your build schedule and production demands.



## SUPERABRASIVES IN AEROSPACE

From grinding, drilling, edging, roughing and polishing, our superabrasive cutting and grinding tools offer superior rough to finish solutions.



### CERTIFICATIONS

- ▶ AS9100C:2009
- ▶ NADCAP FOR CHEMICAL PROCESSING
- ▶ ISO 9001:2008 CERTIFIED AT U.S., CANADA & ALL UK MANUFACTURING FACILITIES



# AIRCRAFT STRUCTURE & COMPONENTS



**AIRFRAME & INTERIOR**  
**SUGGESTED TOOLING:**  
 Materials for AT tooling:  
 Aluminum Alloys • Brass and Bronze Alloys  
 Carbon Fiber Reinforced Polymers (CFRP)  
 CFRP/AL stacks • Fiberglass Reinforced  
 Polymers (FRP) • Fiberglass/Aluminum  
 Laminates • Kevlar® • Honeycomb Core  
 Honeycomb Core/CFRP Laminates  
 Phenolic Resins

**P.B.S. BRAZE**  
**PCD**  
**FLEXIBLE DIAMOND**

**SKELETON**  
**SUGGESTED TOOLING:**  
 Materials for AT tooling:  
 Aluminum Alloys • Carbon Fiber Reinforced  
 Polymers (CFRP) • CFRP/AL stacks  
 Fiberglass Reinforced Polymers (FRP)

**P.B.S. BRAZE**  
**PCD**  
**FLEXIBLE DIAMOND**

**WINDOWS, WINDOW FRAMES & WINDSHIELD**  
**SUGGESTED TOOLING:**  
 Materials for AT tooling:  
 Carbon Fiber Reinforced Polymers (CFRP)  
 CFRP/AL stacks • Fiberglass Reinforced  
 Polymers (FRP) • Phenolic Resins

**PCD**  
**P.B.S. BRAZE**

**BRAKES**  
**SUGGESTED TOOLING:**  
 Materials for AT tooling:  
 Aluminum Alloys  
 Friction Material  
 Ceramic Material  
 Carbon Fiber Reinforced Polymers (CFRP)

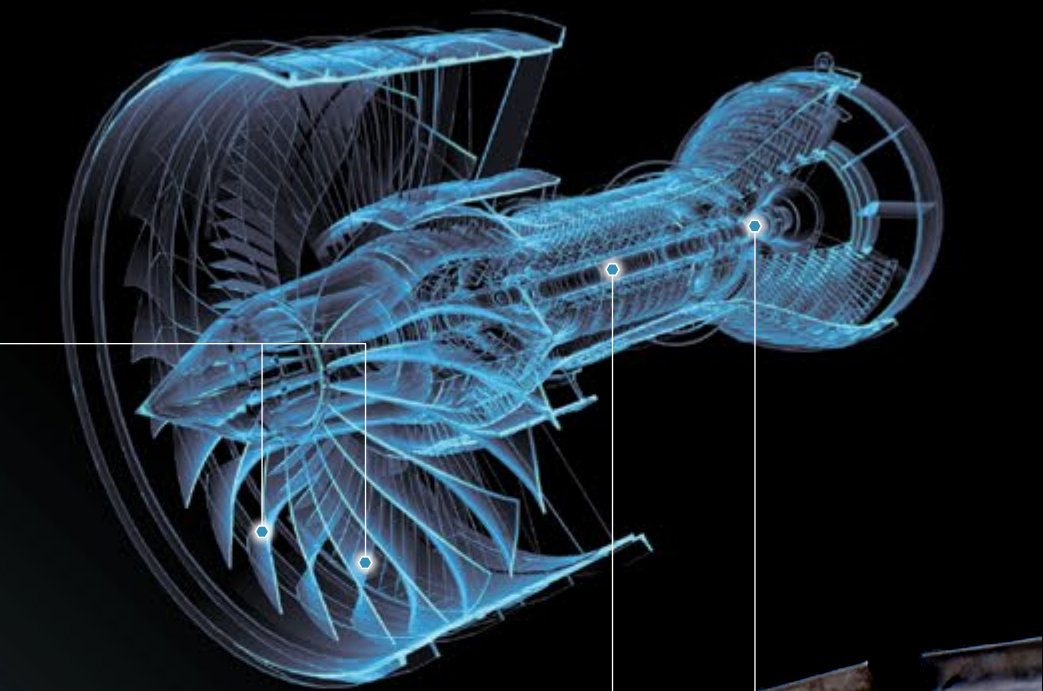
**ELECTRO PLATED**  
**P.B.S. BRAZE**  
**PCD**

**CONE**  
**SUGGESTED TOOLING:**  
 Materials for AT tooling:  
 Carbon Fiber Reinforced Polymers (CFRP)  
 CFRP/AL stacks • Ceramic Material  
 Fiberglass Reinforced Polymers (FRP)  
 Honeycomb Core • Honeycomb Core/  
 CFRP Laminates

**ELECTRO PLATED**  
**PCD**  
**P.B.S. BRAZE**

# TURBINE ENGINE

- ▶ **GRINDING**
- CERAMIC MATRIX COMPOSITES**
- COMPOSITE FAN BLADES**
- NICKEL ALLOY COMPONENTS**
- ▶ **CLEARANCE CONTROL & ANTI-FRETTING COATINGS**
- NICKEL & TITANIUM ALLOY ENGINE COMPONENTS:**  
 Blades • Seals • Blisks/IBR's • Disks • Drums



Electroplated bond mechanically entraps diamond/cBN particles on substrate.

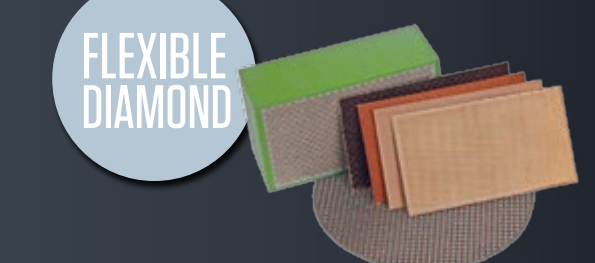
- Ideal for manufacturing tight tolerance forms.
- Free cutting resulting in high material removal rates, less power required and reduced thermal damage to the work piece.
- Holds form or profile from first to last cut.
- Eliminates dressing time.
- Strip and replat the core.
- Ideal for short runs.
- One piece flow.
- Easy to attach to machine and run.

First patented by AT in 1975, the original brazed bond process uses a nickel chrome alloy to chemically bond superabrasive crystals to the substrate.

- Ideal for machining tough-to-cut materials where fast stock removal and deep cuts are required.
- High diamond exposure with no stripping or peeling.
- Fast stock removal rate due to maximum exposure of diamond crystals.
- Aggressive tools that last longer, cut faster, run cooler, load less.
- Strip and replat the core.

PCD tooling is abrasion resistant with the capacity to out-produce carbide tooling up to 100 times.

- Random orientation of diamond crystals means uniform hardness and abrasion resistance.
- Reduced cycle time due to PCD's thermal conductivity and heat resistance.
- Controlled PCD manufacturing process provides consistent physical properties.
- Does not bond with work piece materials so edge build up is minimal for improved surface finish.
- Minimizes fiber tear out and delamination.



Designed for contouring, shaping, and feathering honeycomb material and making delicate adjustments to a formed surface.

- Little heat build-up and very little pressure is required.
- Cool, rapid, even cutting.
- Increased productivity and reduced costs.





# INNOVATION IN AEROSPACE



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- ▶ INDUSTRY CERTIFICATIONS
- ▶ PATENTED TECHNOLOGY

