

# PCD DRILL FOR PRECISION ENGINEERING

PCD (polycrystalline diamond) drills are abrasion resistant with the capacity to out-produce carbide tooling up to 100 times. Our patented veined diamond technology also replaces brazed diamond sections, allowing for custom designed flute, rake and tip geometries.

## EVERLAST® VEINED PCD DRILL

The advantages of Abrasive Technology's patented Everlast® Veined PCD drills are:

- Vastly improved drill life
- Greater tolerance control
- Rugged construction enables the Everlast® drill to handle difficult conditions that damage other drills beyond use
- Increased drill speeds and feeds
- Designed for use on: very high silica aluminum, Carbon Fiber Reinforced Plastics (C.F.R.P.), Reinforced Ceramic Composites (RCC), Carbon Fiber/Aluminum stack material (C.F.R.P/AL), Metal Matrix Composites (M.M.C.), green carbide
- New grade of PCD diamond material is tougher & more rugged, which gives a sharper cutting edge and improves wear and chip resistance

Available with the following specifications:

- Available in 3 - 12mm diameters
- Standard lengths up to 8", others by application
- Range of Helical flute options
- Variable drill point angle
- Double angle type drills for composites
- Drills, routers, reamers, step-tooling, drill countersinks
- Made to customer's specification



# THE PCD ADVANTAGE

AEROSPACE / COMPOSITE ISSUES	EVERLAST <sup>®</sup> PCD DRILL SOLUTIONS
Surface Integrity - Thermal damage to the resin structure from heat build-up in the cutting zone.	<ul style="list-style-type: none"> <li>• Sharper cutting edge than tungsten carbide and competitor's PCD drills gives cooler running.</li> <li>• Can run without coolant.</li> <li>• PCD's excellent thermal conductivity maximizes heat dissipation.</li> </ul>
Exit hole delamination.	<ul style="list-style-type: none"> <li>• Sharper cutting edge minimizes delamination.</li> <li>• Cutting edge stays sharper longer.</li> <li>• Positive cutting rake on helical drill results in less uncut fibers.</li> </ul>
Tight tolerances mean short tool life.	<ul style="list-style-type: none"> <li>• Life approximately 50 times tungsten carbide.</li> </ul>
Limited machining parameters using tungsten carbide.	<ul style="list-style-type: none"> <li>• Increased machining parameters and consequent productivity (50 - 100%).</li> </ul>
Poor surface finish from tungsten carbide drilling requires subsequent reaming.	<ul style="list-style-type: none"> <li>• PCD Everlast<sup>®</sup> drill can drill to H8 tolerance and eliminates reaming.</li> </ul>
Fabricated PCD drill failure.	<ul style="list-style-type: none"> <li>• Fully sintered PCD tip with no brazed diamond section.</li> </ul>
Fabricated PCD drills do not achieve required tolerances.	<ul style="list-style-type: none"> <li>• Everlast<sup>®</sup> concept meets current tolerance requirements.</li> </ul>
Limited flexibility of tip geometry on fabricated PCD drills.	<ul style="list-style-type: none"> <li>• Everlast<sup>®</sup> concept enables variable tip geometry.</li> </ul>

