

# SYNTHETIC DIAMONDS



## Engineered To Meet Your Needs.

While retaining the durability and strength of natural diamonds, synthetic diamonds offer superior consistency and a cost-effective alternative to natural diamonds for industrial tool manufacturers. From PCD and TSP, through to single crystal diamond products, we can offer you a synthetic diamond solution engineered to meet your specific needs. By taking the time to understand your precise operational needs, we work with you to supply a tailored solution, offering fast turn-around times and a team dedicated to building long-term working relationships.

## PCD (Polycrystalline Diamond Disks)

PCD disks are widely used in cutting applications in many different industries including woodworking, automotive manufacturing, aerospace, metalworking and more.



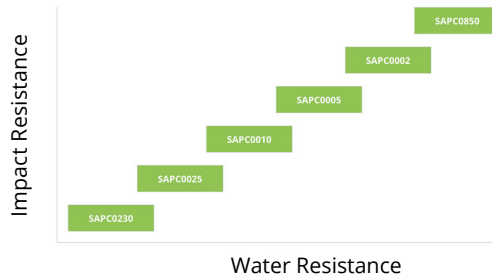
GRADES

We offer PCD disks with both uni-modal and bi-modal grain sizes, allowing you to choose the most suitable option for your specific cutting requirements. Uni-modal grain sizes provide excellent cutting efficiency and surface finish, while bi-modal grain sizes offer enhanced wear resistance and extended tool life. With our diverse range of grain sizes and grades, you can find the perfect PCD disk for your cutting needs.

- **Disk Diameter:** 63mm and 75mm  
*\*bespoke diameters available on request*
- **PCD Grain Size:** 0.5-1um, 5um, 10um, 25um & multimodal 30um & 2um
- **PCD Overall Disc Height:** 1.6mm, 2.0mm & 3.2mm
- **PCD Diamond Layer Thickness:** 0.4 – 0.6mm

Grades	Applications
SAPC0850	<ul style="list-style-type: none"> <li>• Milling of mid-high silicon (&gt;7%) aluminium &amp; titanium alloys</li> <li>• Cutting plastics &amp; wood</li> </ul>
SAPC0002	<ul style="list-style-type: none"> <li>• High precision finishing of low content silicon aluminium alloys</li> <li>• Wear parts and guide rails</li> </ul>
SAPC0005	<ul style="list-style-type: none"> <li>• Thread cutting tools</li> <li>• Profile routers</li> <li>• Wear parts and guide rails</li> </ul>
SAPC0010	<ul style="list-style-type: none"> <li>• Medium and low content aluminium alloys</li> <li>• Stone, Graphite, Copper, Glass, Wood composites, Fireboard etc</li> <li>• Wear parts and guide rails</li> </ul>
SAPC0025	<ul style="list-style-type: none"> <li>• High silicon content aluminium alloys</li> <li>• Metal matrix composite materials</li> <li>• Tungsten carbide and ceramics</li> </ul>
SAPC0230	<ul style="list-style-type: none"> <li>• Metal matrix composites including high silicon aluminium alloys</li> <li>• High Strength cast iron &amp; bi-metal machining</li> <li>• Fibreglass and other highly abrasive materials</li> </ul>

## Shannon Abrasives PDC Grades



### Sizes

Our PCD disks are available in two popular diameters: 63mm and 75mm. These sizes offer versatility and compatibility with a wide range of cutting tools and machinery. Additionally, we provide three standard thicknesses for our disks: 1.6mm, 2.0mm, and 3.2mm. These thickness options allow you to select the appropriate disk for your specific cutting application, ensuring optimal performance and precision.

### Laser or EDM Cut Segments

To further meet your specific requirements, we offer a full suite of laser or EDM cut segments for our PCD disks. These segments can be customized and supplied to your specifications, allowing for precise and efficient cutting performance. Whether you need specific shapes or sizes our team can assist you in creating tailor-made segments that fit seamlessly with your cutting tools.

### Bespoke Disk Sizes and Features

At our company, we understand that certain projects call for unique disk sizes and features. Therefore, we offer the option for customers to request bespoke disk sizes and additional features. Whether you need a specific diameter, thickness, or special features such as chamfers or holes in the disk, our team is committed to delivering customized solutions that meet your exact requirements.

Polycrystalline Diamond (PCD) disks are a revolutionary cutting tool designed to cater to a wide range of industries and tasks. With their exceptional hardness, abrasion resistance, and thermal conductivity, PCD diamond disks excel in cutting and machining applications where traditional tools fall short.

Whether it's precision machining of non-ferrous metals like aluminum, copper, and brass, or cutting abrasive materials like wood, composites, and plastics, PCD diamond disks deliver unparalleled performance and extended tool life. These disks are also widely employed in the construction and mining sectors for concrete cutting, drilling, and grinding operations.

By harnessing the outstanding durability and efficiency of PCD diamond disks, businesses can achieve superior productivity and cost-effectiveness, making them an indispensable asset for various cutting-edge industries.

Each of our PCD disks is accompanied by a quality assurance report verifying that it has passed our stringent quality assurance tests. These tests include a size & appearance check and a vickers hardness test. We also measure the thickness of the diamond layer across the disk using SEM as well as checking the micro sintering morphology to ensure it is uniform with no impurities or particle aggregations.

**Talk To Our Experts About Your Industrial Diamond Needs**



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