

SINGLE CRYSTAL DIAMOND



Engineered To Meet Your Needs.

Single Crystal Diamond for Precision Machining is a cutting-edge solution for achieving unparalleled precision and efficiency in your machining operations.

CVD Diamond

Mechanical grade single crystal CVD diamond is a cutting-edge material renowned for its exceptional mechanical properties and versatility. Shannon Abrasives specialize in supplying high-quality single crystal CVD diamond plates with precise crystallographic orientations, allowing for a wide range of applications in precision machining.



GRADES

Mechanical grade supplied as standard, optical and electronic grades are available on request.

SPECIFICATIONS

Crystallographic Orientations:

We offer single crystal CVD diamond plates in 2Pt (110) and 4Pt (100) crystallographic orientations. These orientations provide different surface configurations and allow for tailored performance in specific applications. Whether you require the enhanced durability and wear resistance of the 2Pt orientation or the optimized thermal conductivity and electrical properties of the 4Pt orientation, our CVD diamond plates can meet your exact needs.

Standard Sizes:

We supply single crystal CVD diamond plates in all standard sizes to accommodate different application requirements. Our available standard sizes include 4 x 3 x 1.2mm and 3 x 3 x 1.2mm. These sizes are commonly used in a variety of applications and provide a balance between versatility and practicality.

Bespoke Sizes:

We understand that some projects demand unique dimensions. That's why we offer the option for customers to request bespoke sizes for their single crystal CVD diamond plates. Our team is committed to meeting your specific requirements, and we can produce custom sizes tailored to your application needs. Simply provide us with your specifications, and we will work closely with you to deliver the perfect solution.

APPLICATIONS

Mechanical grade single crystal CVD diamond finds applications in a wide range of industries and fields. Its exceptional mechanical properties, such as high hardness, stiffness and wear resistance, make it ideal for demanding applications. It is used in cutting tools, high-performance optics, and more. The versatility and reliability of our CVD diamond plates make them a preferred choice for professionals across various industries.

Choose our HPHT single crystal diamonds for their superior quality, reliability, and versatility. Contact us today to discuss your requirements and explore

how our HPHT diamonds can elevate your cutting, grinding, and manufacturing processes. Our team is dedicated to providing tailored solutions and assisting you in finding the perfect diamond shape and size for your specific application needs.

Contact us today to discuss your requirements and explore how our mechanical grade single crystal CVD diamond plates can enhance your projects. Our dedicated team is ready to assist you in selecting the ideal diamond plate size and orientation for your needs, delivering exceptional performance and value.

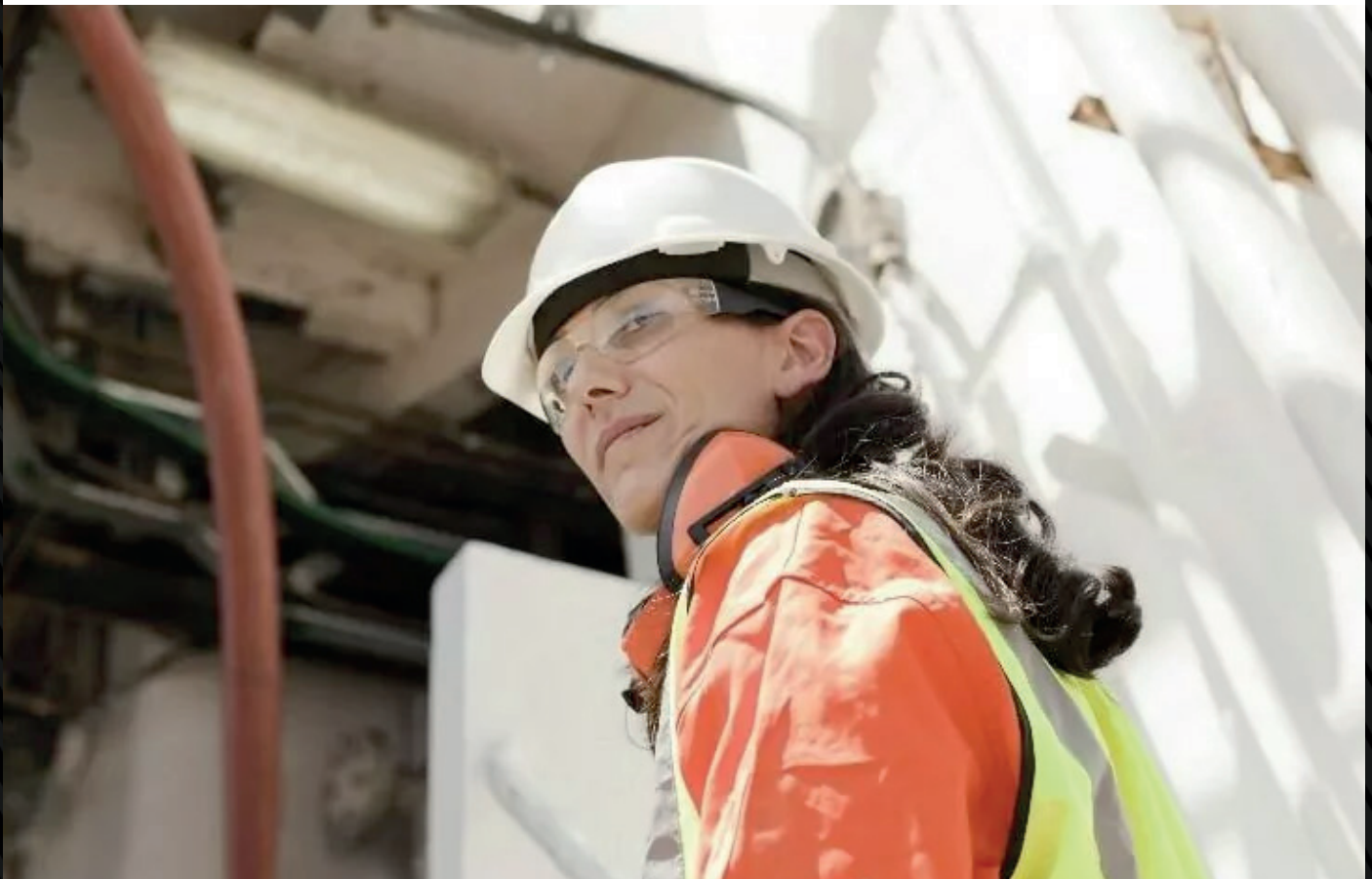
QUALITY

We understand the importance of delivering exceptional quality and performance to our customers. As part of our comprehensive quality assurance process, we begin with a thorough dimensional check of each CVD diamond plate. This ensures that the size and thickness of the plates align with the specified requirements.

Additionally, we employ state-of-the-art technology, such as the Leica polarizing microscope, to conduct a stress analysis on the diamond plates. This advanced microscope allows us to examine the

internal stress distribution within the plates, ensuring their structural integrity and minimizing the risk of any potential defects.

By utilizing these cutting-edge techniques, we can confidently provide Mechanical grade CVD diamond plates that not only meet but exceed the highest industry standards. Our commitment to quality assurance guarantees our customers receive reliable and high-performance diamond plates for their diverse mechanical applications.



Talk To Our Experts About Your Industrial Diamond Needs



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