



**EID E-CVD 2-point and 4-point SINGLE CRYSTAL CVD Diamond (MCG Mechanical Grade)**

After nearly 4 decades of stop-start research into CVD diamond growth, microwave plasma enhanced CVD diamond synthesis emerged as a commercial synthesis method in the 1990s. The growth rates and control over purity of this method lends itself to manufacturing high quality, free-standing, single crystals diamond.

EID is involved with the manufacture of single crystal diamond products for the mechanical optical and electronics industries.

- EID has engineered Lab Grown Diamond plates suitable for demanding applications, which opens up the possibility of exploiting the excellent optical and thermal properties of Grown Diamonds in a consistently engineered material without compromising other aspects of device performance.
- CVD Plates are available in various dimensions and thickness. Grown Diamond plate offers a very wide spectral range (spanning the UV to the THz), with low absorption coefficients at key laser frequencies, it has a very high thermal conductivity enabling any heat absorbed to be dissipated, and it has a low thermal expansion coefficient, limiting any thermally generated strain

<b>Mechanical Grade ECVD transparent white EID CVD MCG single crystal cvd diamond Orientation 2 point or 4 point</b>	
<b>PROPERTY</b>	
Density	3.52
Hardness 300 K ( Gpa)	70-120 depending on orientation
Fracture stress (Mpa)	2000-3000
<b>Thermal Conductivity</b>	
Thermal conductivity @ 300K	> 1900
Thermal conductivity @ 425K	> 1500
<b>Thermal expansion coefficient</b>	
Thermal expansion@ 300k	1.0 +/- 0.10
Thermal expansion@ 1000k	4.4 +/- 0.10
<b>Specific heat capacity</b>	
300k ( Jkg-K)	520
<b>Youngs Modulus</b>	
Posissons ratio	0.1
Gpa	1050

