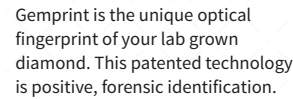


April 24, 2026



Growth Method	CVD
Chemical Vapor Deposition (CVD)	Highly controlled environment, allowing for precise control over film thickness and composition.
Sputtering	Allows for deposition of a wide range of materials, but may result in higher defect density compared to CVD.
Molecular Beam Epitaxy (MBE)	Provides excellent control over atomic-scale growth, but is typically more expensive than CVD.
Pulsed Laser Deposition (PLD)	Enables the deposition of complex stoichiometries, but often results in smaller area coverage.
Atomic Layer Deposition (ALD)	Offers exceptional conformality and uniformity, particularly for thin films on non-planar surfaces.
Electrochemical Deposition (ECD)	A cost-effective method for depositing conductive materials, but may require post-processing for surface quality.
Hydrothermal Synthesis	Can produce nanoscale structures directly, but often requires subsequent processing steps.
Sol-Gel Process	Simple and scalable, but may involve high-temperature sintering steps.
Spin Coating	Rapid and suitable for large-area deposition, but may have limited material compatibility.
Dip Coating	Very simple process, but often yields thicker, less uniform films.
Langmuir-Blodgett (LB)	Enables the deposition of monolayers with precise molecular orientation.
Self-Assembly	Natural process for creating ordered nanostructures, but often requires templating or seeding.
Bio-Inspired Growth	Exploits biological processes for unique structures, but scalability remains a challenge.
Vapor-Liquid-Solid (VLS)	Used for nanowire synthesis, offering good control over diameter and length.
Electroless Plating	Uniform deposition without external current, useful for certain catalytic coatings.
Thermal Evaporation	Simple technique for depositing metals, but lacks the precision of CVD.
Physical Vapor Deposition (PVD)	Includes various techniques like evaporation and sputtering, offering moderate control.
Chemical Bath Deposition (CBD)	Low-cost solution-based method, but often produces larger grains.
Layer-by-Layer (LbL) Assembly	Enables the construction of multilayered structures with molecular-level precision.
Direct Ink Writing (DIW)	Allows for patterning and deposition of functional inks.
3D Printing	Emerging technology for fabricating complex microstructures.
Photolithography	Essential for defining patterns on substrates during device fabrication.
Etching	Removes unwanted material to define circuit features.
Annealing	Treatment used to improve crystallinity and reduce defects in deposited films.
Passivation	Application of protective layers to enhance device stability.
Encapsulation	Final step to protect sensitive components from environmental degradation.

This laboratory grown diamond was created by the CVD (Chemical Vapor Deposition) method, and has the same chemical, physical and optical properties as a mined diamond. This diamond is Type IIa.



Protect your investment by registering your lab grown diamond and receive discounts up to 10% off your annual insurance premiums.
Register your diamond at [Gemprint.com](https://www.gemprint.com)

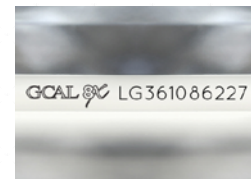
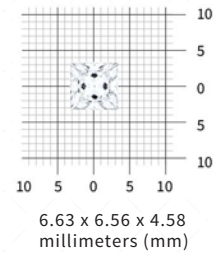


Illustration depicts approx.
girdle appearance

Actual Size



Photomicrographs



Actual photographs of the crown and pavilion of this lab grown diamond. View hi-resolution photos at GCALUSA.com

Clarity Characteristics and Locations

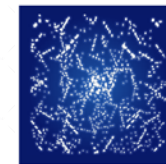
Pinpoint	Table
Cloud	Half Moon



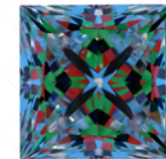
is the overall return of white light to the viewer. It is measured to the thousandth decimal place and is represented in this image. The white areas indicate light return / brilliance, and the dark-blue areas indicate light loss.



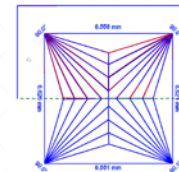
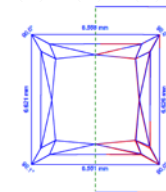
results when white light travels through a diamond and is dispersed into its rainbow of spectral colors. These flashes of color contribute to sparkle and are best viewed as the diamond moves.



is the flashes of white light, or sparkle, produced when light is reflected from a diamond as it moves. This image shows the light returned from a single beam of light when your lab grown diamond is rotated in nine positions.



is visualized in this photograph of your lab grown diamond taken in a specific colored lighting environment. The evenness of the pattern illustrates the precision and uniformity of facet shapes and alignment.



analyze features unique to Princess:

The angles and axis symmetry are measured to confirm 8X⁺ princess cuts are desirable square shapes, with a ratio between 1 to 1.015 and 90° corners within 0.20+/- . The axis symmetry images shown here are part of these measurements.

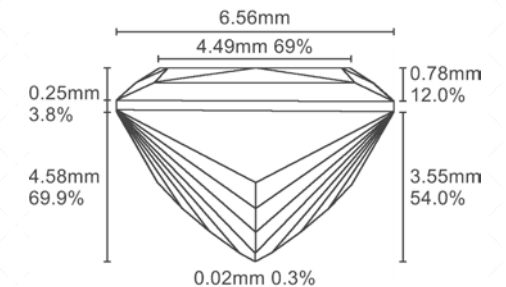
Precise points or chamfered corners on princess cuts are inspected to ensure only diamonds with undamaged corners, at the time of certification, achieve an Excellent grade.

Scan QR code to view photos and videos of this lab grown diamond, and the ~~8x~~ grading scales, go to <https://www.gcalusa.com/c/361086227>



P Poor **F** Fair **G** Good **VG** Very Good **EX** Excellent

Optical scanning technology measures each facet and angle to produce an accurate, to-scale diagram of this lab grown diamond.



DIAMOND SHAPES



CARAT WEIGHT SIZES

Carat Weight	2.50	2.00	1.50	1.00	0.75	0.50
Approx. Size						
Diameter	8.60mm	8.00mm	7.30mm	6.40mm	5.80mm	5.10mm

DIAMOND CLARITY GRADING SCALE

FL	IF	VVS1	VVS2	VS1	VS2	S11	S12	I1	I2	I3
FLAWLESS - INTERNALLY FL.		VERY VERY SLIGHTLY INCLUDED		VERY SLIGHTLY INCLUDED		SLIGHTLY INCLUDED		INCLUDED/PIQUE		

DIAMOND COLOR GRADING SCALE



D - Z DIAMOND COLOR GRADING SCALE

DIAMOND FLUORESCENCE GRADING SCALE



DIAMOND POLISH & SYMMETRY GRADING SCALE

EXCELLENT	VERY GOOD	GOOD	FAIR	POOR
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BRILLIANT CUT DIAGRAM



BUY WITH
CONFIDENCE

GCAL BY SARINE™
4Cs GRADING GUARANTEE

The GCAL by Sarine™ philosophy is simple: we believe consumers should feel confident about their lab grown diamond purchase, in the same way we believe experts should be accountable and stand behind their work.

This is why your lab grown diamond is protected by a zero tolerance, money-backed grading guarantee. You should know that the GCAL by Sarine™ 4Cs Grading Certificate is the only 4Cs grading certificate in the world that comes with a guarantee that ensures the accuracy of the certified lab grown diamonds' weight and quality grades. If the carat weight or any of the cut, color, or clarity grades provided in this GCAL by Sarine™ 4Cs Grading Certificate is lower than the weight or quality grade of your certified lab grown diamond, GCAL by Sarine™ will reimburse you the difference between what you paid for the lab grown diamond and the current fair value of an equivalent lab grown diamond in the market in which it was purchased, pursuant to the newly established grades. Kindly see additional details, including the limitations of the guarantee, at GCALUSA.com.

MISSION STATEMENT

To provide the most accurate and consistent gemological grading, with uncompromising integrity and unparalleled customer service.

GEMPRINT®

Having a traceable, unique “fingerprint” of your lab grown diamond adds future protection to your investment, as well as peace of mind. GCAL by Sarine™ records the distinctive Gemprint of every diamond we certify. This patented technology for positive identification is recognized worldwide as forensic evidence and identification. Register your lab grown diamond at GEMPRINT.com

CERTIFICATE VERIFICATION

You can verify the authenticity of this certificate by entering your GCAL by Sarine™ Certificate Number at GCALUSA.com. You can also download a complimentary digital copy of this document to send to your insurance company.



GUARANTEED
CERTIFICATE



LAB GROWN

Independently Graded and Guaranteed by GCAL by Sarine™



8X® is the highest achievement in precision diamond cutting. The **GCAL 8X** Ultimate Diamond Cut Grading System encompasses all aspects of diamond CUT quality assessment. Your lab Grown diamond has achieved grades of Excellent in all eight aspects of CUT quality assessment. As a result, this lab grown diamond is recognized for its extraordinary brilliance and beauty.

PHYSICAL EXCELLENCE

The first three of the 8X grading factors analyze the exactness of the physical surface, the facet shapes, as well as the angles. This includes the Polish, External Symmetry and Proportions.

Decades of meticulous mathematical calculations have determined the narrow proportion ranges required to produce superior cut diamonds. Each shape has been studied individually to find the most aesthetically pleasing parameters. Some of the factors considered are listed below.

To view the proportions specifications for each shape, please visit our website GCALUSA.COM

Table %	Lower Girdle Facet Length
Depth %	Star Length
Crown Angle/Height	Girdle Thickness
Pavilion Angle/Height	Culet Size

LIGHT PERFORMANCE EXCELLENCE

The next three of the 8X grading factors are Brilliance, Fire and Scintillation, which analyze the light handling ability of your lab grown diamond. The combination of these factors is the essence of what makes any diamond visibly shine, dance and sparkle from across a room. Fire and Scintillation are graded while the diamond is in motion and interacting with light. View the Fire and Scintillation videos of this lab grown diamond at GCALUSA.com or by scanning the QR code on this certificate.

OPTICAL EXCELLENCE

The last two 8X grading factors consider optical excellence. These factors scrutinize the craftsmanship, the precise alignment of the crown and pavilion facets, the shape outline, and the length to width ratio, ensuring the lab grown diamond achieves aesthetic perfection.

Grading scales for each of the 8X grading factors can be viewed at GCALUSA.com