SERIES S40 · SINGLE-CRYSTAL CVD

Single-crystal CVD diamond plates



Lab-grown single-crystal diamond with controlled nitrogen and boron content. Electronic (quantum) grade plates have extremely low impurity levels and give long NV spin-coherence times; optical grade is the economical choice for optics and NV ensembles.

- {100} faces, ⟨100⟩ or ⟨110⟩ laser-cut edges
- Both faces polished, Ra < 5 nm (< 1 nm on request)
- Lateral tolerance +0.2 / −0 mm, thickness ± 0.05 mm
- (111) and (110) plates on request

GRADES

Grade	Nitrogen [N]	Boron [B]	Typical use
EG · Electronic / quantum grade	< 5 ppb	< 1 ppb	Single-NV qubits, quantum sensing, radiation detectors
EG12 · ^{12}C-enriched electronic grade	< 5 ppb	< 1 ppb	99.99 % ^{12}C for the longest spin coherence
OG · Optical grade	< 1 ppm	< 0.05 ppm	Optics, Raman lasers, windows, NV ensembles
HP · HPHT type Ib	≈ 10 – 200 ppm	—	CVD overgrowth substrates, heat spreaders, irradiated NV ensembles

CONFIGURATIONS

Ref. No.	Lateral size	Thickness	Grade	Price
S4001	2.0 × 2.0 mm	0.3 mm	EG	On request
S4002	2.0 × 2.0 mm	0.3 mm	EG12	On request
S4003	2.0 × 2.0 mm	0.3 mm	OG	On request
S4004	2.0 × 2.0 mm	0.3 mm	HP	On request
S4005	2.0 × 2.0 mm	0.5 mm	EG	On request
S4006	2.0 × 2.0 mm	0.5 mm	EG12	On request
S4007	2.0 × 2.0 mm	0.5 mm	OG	On request
S4008	2.0 × 2.0 mm	0.5 mm	HP	On request
S4009	3.0 × 3.0 mm	0.3 mm	EG	On request
S4010	3.0 × 3.0 mm	0.3 mm	EG12	On request
S4011	3.0 × 3.0 mm	0.3 mm	OG	On request
S4012	3.0 × 3.0 mm	0.3 mm	HP	On request
S4013	3.0 × 3.0 mm	0.5 mm	EG	On request
S4014	3.0 × 3.0 mm	0.5 mm	EG12	On request
S4015	3.0 × 3.0 mm	0.5 mm	OG	On request
S4016	3.0 × 3.0 mm	0.5 mm	HP	On request
S4017	4.0 × 4.0 mm	0.5 mm	EG	On request
S4018	4.0 × 4.0 mm	0.5 mm	OG	On request
S4019	4.0 × 4.0 mm	0.5 mm	HP	On request
S4020	4.5 × 4.5 mm	0.5 mm	EG	On request

Ref. No.	Lateral size	Thickness	Grade	Price
S4021	4.5 × 4.5 mm	0.5 mm	OG	On request
S4022	2.0 × 2.0 mm membrane	5 µm	EG (thinned, Ra < 2 nm)	On request
S4023	2.0 × 2.0 mm membrane	10 µm	EG (thinned, Ra < 2 nm)	On request
S4024	2.0 × 2.0 mm membrane	20 µm	EG (thinned, Ra < 2 nm)	On request
S4025	2.0 × 2.0 mm membrane	50 µm	EG (thinned, Ra < 2 nm)	On request

Specifications are typical values; every lot ships with a Certificate of Conformance, and measured data are available on request. Prices on request.