

C3-10-AG--

## **Product Data Sheet**

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# **C3 Electrode**

Carbon Film Based Electrode

Our C3 Electrode is made using a chemical vapor deposition (CVD) process that deposits a uniform, pristine carbon film directly onto an alumina substrate. This method creates a pure carbon interface that is binders and additive free, supports efficient electron transfer, and consistent electrochemical performance.

Our C3 Electrode shows reliable behavior with clear peak separations and robust current responses, making it a solid choice for high-frequency applications and biosensing. Overall, the C3 Electrode offers a strong platform for advanced electrochemical measurements and sensing applications, balancing innovative performance with practical reliability.

Growth Method
Quality Control
Dimensions (mm)
Substrate Material
Composition (EDS)
Carbon Thickness (µm)
Sheet Resistance (ohms/sq)
Surface Area*
Conductivity (S/m)
Chemical Stability**
WE Geometric Area (mm^2)
Working and Counter Electrode
Reference Electrode

Chemical Vapor Deposition Raman, SEM, and 4-Point Probe 10 x 30 x 0.5 Alumina > 99% C (No Binders) 2.3 ± 0.2 5 ± 0.5 0.46 ± 0.02 2x10^5 Binder free, high for most solvents 12.56 Pristine Carbon Aq/AqCI

\*Percentage of additional surface area, relative to the projected, planar area.

\*\*C3 Electrode is compatible with many solvents, but the applied dielectric has more limited solvent stability. Contact us for solvent resistant C3 Electrode device options.



CV curves for 5 mM K3[Fe(NC)6] / 1M KCl at a scan rate of 50 mV/s using C3 electrodes.

### Figure 4. CAD Rendering

**Figure 2. Raman Spectrum** 



**Related Products** 

**Table 1.** Parameters extracted from CV curvesof C3 electrodes (n = 30)

	Mean	RSD
lpa (µA)	69.9 ± 1.9	2.7%
lpc (µA)	-85.6 ± 2.7	3.1%
ΔEp (mV)	85 ± 4.0	4.7%
E0 (mV)	200 ± 1.0	0.5%

#### Figure 3. SEM Image



### **Handling Guide**

- C3 electrodes are intended for single-use, disposable sensor applications.
- Store in a dry, room-temperature environment. Always keep the container closed and away from direct sunlight.
- Please avoid touching or contact with the carbon and/or Ag/AgCl surfaces. It is recommended that you handle them with tweezers.

\*Electrodes defined from continuous film by tracing.

\*\* Custom C3 Electrode Configuration available upon request.

For more information about the products offered by General Graphene Corporation, please visit www.generalgraphenecorp.com or contact us at sales@generalgraphenecorp.com.