

PRODUCT COMPARISON

Grat-Film™ : High-quality CVD graphene films

CVD Graphene on Copper

Product Name	Product Features	Available Sizes (in ²)
Gratom-M-Cu	<ul style="list-style-type: none"> • <u>Monolayer percentage > 95%</u> • Optical transmittance at 550 nm > 97% (excl. substrate) • Average Raman Id/Ig < 5% within domain • Average Hall mobility of 2000-4000 cm²/Vs at n=1e12 /cm² • Average sheet resistance of 300-600 ohm/sq. when transferred to PMMA or PET substrate 	2 x 2 4 x 4 8 x 10 12 x 14
Gratom-R-Cu	<ul style="list-style-type: none"> • <u>Monolayer with occasional multilayer islands</u> • Optical transmittance at 550 nm > 95% (excl. substrate) • Average sheet resistance of 300-600 ohm/sq. when transferred to PMMA or PET substrate 	8 x 10 12 x 14
Gratom-A-Cu	<ul style="list-style-type: none"> • Large-area, as-grown CVD graphene 	12 x 60 24 x 60 24 x 100 24 x 300
Gratom-S-Cu	<ul style="list-style-type: none"> • Isolated single graphene domain • Large graphene domain (30 – 200 μm) • Average Raman Id/Ig < 5% within domain 	2 x 2

- Copper thickness 1mil (25 μm)
- Contact us for other dimensions or different copper film thickness

CVD Graphene on SiO₂/Si

Product Name	Product Features	Available Sizes
Gratom-M-Si1	<ul style="list-style-type: none"> • <u>Graphene film coverage > 95% with occasional holes and cracks (< 5 %)</u> • Monolayer graphene percentage > 95% • # of cracks or holes larger than 3 mm: 0 • Average Raman Id/Ig < 5% within domain • Average Hall mobility of 2000-4000 cm²/Vs at n=1e12 /cm² • Average sheet resistance of 300-600 ohm/sq. 	1cm x 1cm 2" or 4" wafer
Gratom-M-Si2	<ul style="list-style-type: none"> • <u>Graphene film coverage > 99% with occasional holes and cracks (< 1 %)</u> • Monolayer graphene percentage > 95% • # of cracks or holes larger than 3 mm: 0 • Average Raman Id/Ig < 5% within domain • Average Hall mobility of 2000-4000 cm²/Vs at n=1e12 /cm² • Average sheet resistance of 300-600 ohm/sq. 	1cm x 1cm 2" or 4" wafer
Gratom-S-Si	<ul style="list-style-type: none"> • Isolated single graphene domain • Large graphene domain (30 – 200 μm) • Average Raman Id/Ig < 5% within domain 	2" wafer

- Wafer spec: thermal grown 285-nm SiO₂ on p-type Si substrate (resistivity <0 .005 ohm-cm)
- Contact us directly for other specs not listed

CVD Graphene transferred on PET

Product Name	Product Features	Available Sizes (in ²)
Gratom-O1	<ul style="list-style-type: none"> • Transmission of graphene at 550 nm: > 95% (excl. substrate) • Average sheet resistance: < <u>800 ohm/sq.</u> 	2 x 2 4 x 4 8 x 10
Gratom-O2	<ul style="list-style-type: none"> • Transmission of graphene at 550 nm: > 95% (excl. substrate) • Average sheet resistance: < <u>300 ohm/sq.</u> 	2 x 2 4 x 4 8 x 10
Gratom-O3	<ul style="list-style-type: none"> • Transmission of graphene at 550 nm: > 93% (excl. substrate) • Average sheet resistance: < <u>150 ohm/sq.</u> 	2 x 2 4 x 4 8 x 10
Gratom-O4	<ul style="list-style-type: none"> • Transmission of graphene at 550 nm: > 90% (excl. substrate) • Average sheet resistance: < <u>70 ohm/sq.</u> 	2 x 2 4 x 4 8 x 10
Gratom-O5	<ul style="list-style-type: none"> • Transmission of graphene at 550 nm: > 85% (excl. substrate) • Average sheet resistance: < <u>30 ohm/sq.</u> 	2 x 2 4 x 4 8 x 10

- PET thickness 5 mil (125 micron), transmittance 87% @ 550 nm
- Contact us for other dimensions or customized products