

The Covalent Way

Covalent Metrology delivers quality data and expert analysis for advanced materials and device innovation. Our unique combination of cutting-edge analytical instruments and world-class team of scientists enables us to provide our clients with actionable, accurate and affordable data and insights to accelerate the development of product and technology innovations.



A Culture of Partnership

Partnership is at the heart of our mission to make cutting-edge analytical capabilities available to scientists, engineers, and companies of all sizes and developmental stages.



Accurate Data, Deep Insights

When you need good data fast, we will deliver accurate measurements, quickly and affordably. For complex projects, our experts will deliver advanced analysis and guide you to the appropriate solution.



Holistic Analytical Services

We are ready to meet all of your metrology and advanced analytical needs, both within and beyond the lab, by providing custom consulting, onsite certified technician support, instrumentation training, tool rental programs and more.

The Solutions We Offer

PCBA, Semiconductor, and Electronic Device Metrology & Failure Analysis

- DPA / Mechanical Cross-section
- Dye & Pry Test
- Hot Spot Detection
- IR Imaging / Emission Microscopy
- Root-Cause Failure Analysis
- EBIC / OBIC failure analysis

Chemical Analysis

- ICP-MS & LA-ICP-MS
- GC-MS
- FTIR
- Raman
- NMR (1D or 2D; solid-state and solution-state)
- EPMA

Electron / Scanning Probe Imaging & Microscopy

- SEM (+ EDS)
- FIB-SEM (+ EDS)
- S/TEM (+ EDS / + EELS)
- AFM & Advanced AFM Modes
- Scanning Acoustic Microscopy (SAM)

Nanoparticle Analysis

- Dynamic Light Scattering (DLS)
- Laser Diffraction Particle Size Analysis (PSA)
- Particle Zeta Potential

Optical Microscopy & Spectroscopy

- Laser Scanning Confocal
- White Light Interferometry
- Chromatic Aberration
- Digital Optical Microscopy
- Spectral Ellipsometry
- UV-Vis-NIR Spectroscopy

Material Property Characterization

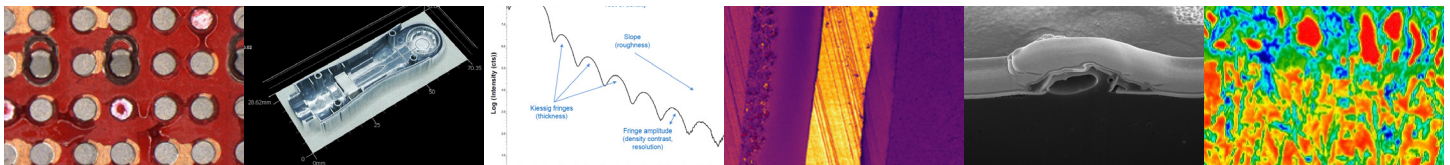
- DSC, TGA, DMA & TMA
- Rheometry
- Surface Zeta Potential
- Nanomechanical Analysis
- Tensile-Test
- Taber Test

X-Ray Characterization

- X-Ray Diffraction
- X-Ray Reflectometry
- Micron-spot ED-XRF
- WDXRF
- Micro-CT
- 2D X-ray Inspection & X-ray Radiography

Surface Analysis

- X-ray Photoelectron Spectroscopy (XPS)
- Ion Scattering Spectroscopy (ISS)
- Ultraviolet Photoelectron Spectroscopy (UPS)
- ToF-SIMS (Static-SIMS)
- Dynamic-SIMS



Covalent Metrology's Silicon Valley analytical services labs host over 30 state-of-the-art instruments and we proudly partner with some of the world's most cutting-edge instrumentation companies.

Let's talk about your project and goals!

Covalent Metrology is ready to serve you with our comprehensive platform of techniques and services, even during COVID 19. Reach out to our friendly team of experts to start a conversation about how we can help your team achieve your materials characterization goals. [Contact us](#) and tell us a bit about your project or problem and we'll be in touch soon!

Get a quote at [covalentmetrology.com](https://www.covalentmetrology.com)