

COMPOSITE MATERIAL TESTING & ANALYSIS

At Lucideon we use a wide array of techniques to characterize materials, identify sources of contamination and root causes for defects to assist in promptly reducing costs, troubleshooting manufacturing issues, developing new products and addressing customer complaints.

IMAGING & ANALYSIS

- Constituent distribution
- Digital photomicrography
- Metallographic prep
- Void content

CHEMICAL ANALYSIS

- Chemical exposure
- Extractables/leachables
- Loss on ignition
- Material identification
- Moisture content
- Reverse engineering
- Staining
- Trace metal content
- Void, fiber, resin, filler content
- Water absorption

THERMAL ANALYSIS

- 3-point bend, 4-point bend
- Coefficient of Linear Thermal Expansion (CTE)
- Glass transition temperatures (T_g)
- Decomposition by TGA
- Heats, fusion and crystallization by DSC
- Melting temperature/range
- Shrinkage
- Thermal mechanical analysis (TMA)
- Time to delamination



MECHANICAL TESTING

- ASTM C 1341 Flexural properties of CFR ceramics
- ASTM D 412 Tensile of Rubber & TP Elastomers
- ASTM D 624 Tear Strength - Rubber and TPE
- ASTM D 638 Tensile properties of plastics
- ASTM D 648 Deflection temp under flexural load
- ASTM D 695 Compressive strength of rigid plastics
- ASTM D 785 Rockwell hardness of plastics
- ASTM D 790 Flexural properties of plastics
- ASTM D 2344 Short-beam strength
- ASTM D 3039 Tensile properties of composites
- ASTM D 3163 Bond strength (lap-shear)
- ASTM D 5379 Shear properties (v-notch beam)
- ASTM D 5420 Gardner impact resistance
- ASTM D 5766 Open-hole tensile strength
- ASTM D 6272 Flexural strength by 4-pt bend

ELECTRICAL TESTING

- ASTM D 149 Dielectric breakdown & strength at commercial power frequencies
- ASTM D 150 AC loss characteristics & permittivity (dielectric constant) of solid electrical insulation
- ASTM D 229 Rigid sheet and plate materials used for electrical insulation
- ASTM D 257 DC resistance or conductance of insulating materials (volume & surface)