

**Intertek**

Valued Quality. Delivered.

# COMPOSITES

Front End Materials Identification,  
Characterization and Selection

Intertek ASA has expertise in composite identification and characterization using a variety of spectroscopic, thermal and rheological methods. These techniques are used to study curatives, formulations, resins and filled systems, either during processing or as final products. An area of emphasis is our ability to greatly accelerate the material selection process for thermosetting matrices used in composites, especially when compared to traditionally practiced characterization methods.





Intertek's integrated approach to characterization of composites provides unique insight for development of next generation materials.

### Markets Supported

Intertek provides a network of laboratory and consulting services to a variety of industry, government and research customers. We support customers across the global aerospace,

automotive, building, chemical, consumer, energy, manufacturing, medical, and materials industries with our world-leading facilities, experts, and solutions.

### Front End Materials Identification, Characterization and Selection

- **Development of Formulating Models**
  - Reduces product development cycle time for front-end materials selection
  - Useful for understanding the breadth of processing properties for a set of materials
  - Predictive Capability for Key Processing Parameters
    - Allows the calculation of material properties without additional experimentation
    - Answers: "What properties can I expect from the following formulation?"
  - Optimization Capability
    - Enables the selection of a formulation which best meets desired criteria, including performance attributes and product cost
    - Answers: "What formulation would I need to match a given performance?"
- **Rheological Analysis - Viscosity Profiles During Cure**
  - Establishes relationships between formulations and resulting material properties
  - Provides a wealth of information relative to traditional, single point measurements for reactive systems
  - Ability to perform measurements at controlled temperature, humidity and frequency
  - Able to accommodate materials with cure times from minutes to days
  - Properties measured: mix viscosity, pot life, gel time, working time and others.
- **Thermal Analysis**
  - Glass transition temperature, T<sub>g</sub>, by DSC
  - Determination of residual cure exotherms
  - Decomposition temperature, volatiles content, filler content by TGA
- **Chemical Analysis**
  - Materials identification and qualification
  - Reaction monitoring to understand cure chemistries

### The Intertek ASA Advantage

Intertek ASA scientists provide advanced analytical tools and expertise for materials analysis and R&D. The laboratory supports a wide range of industries and markets including electronics, construction materials, industrial gases and more. Intertek ASA scientists have years of industry experience, supporting client research, development and production projects. Intertek ASA helps customers improve and enhance discovery, prototype, scale-up, trouble-shooting and process monitoring activities. Integrated problem-solving is an important client benefit due to the breadth of tools and experience the laboratory has available.

Intertek is a leading provider of quality and safety solutions serving a wide range of industries around the world. From auditing and inspection, to testing, quality assurance and certification, Intertek people are dedicated to adding value to customers' products and processes, supporting their success in the global marketplace. Intertek has the expertise, resources and global reach to support its customers through its network of more than 1,000 laboratories and offices and 30,000 people in over 100 countries around the world.



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For more information please visit <http://www.Intertek.com/Analytical-Laboratories/ASA/>.

For more information about Intertek ASA's entire family of polymer and material testing capabilities, please contact us at +1 888 400 0084 or email us at [web.cp@intertek.com](mailto:web.cp@intertek.com).