



Polymer Testing

We Take A Closer Look

- Tensile Strength
- Flexural Strength/Modulus
- Durometer Hardness
- Izod Impact
- Failure Analysis
- Heat Deflection Temperature

Polymer Testing

Polymer testing at ATS is a comprehensive service utilizing experienced and dedicated professionals using state-of-the-art equipment. Our capabilities include polymer characterization, molecular weight studies, and dilute solution viscosity as well as the determination of mechanical properties such as impact, tensile/flexural strength, hardness, and, physical properties such as heat deflection temperature, flammability and U.V. resistance.

Whether your polymer testing needs are process related or incoming material verification, ATS provides you with accurate and timely results to answer any polymer questions you have.

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Applied Technical Services' polymer testing lab provides plastic tensile strength testing.

What are Tensile Tests, and Why are They important?

Tensile tests determine the force needed to break a plastic and evaluate the plastic's elasticity before breaking. Tensile tests allow manufacturers to examine the mechanical properties of their plastic products. Plastics must perform properly under stress, so manufacturers use tensile strength testing to predict how plastic materials may fail in stressful conditions. Tensile testing is essential to manufacturers' quality control, research and development, and safety measures.

American Society for Testing and Materials D638

ASTM D638 determines the tensile strength of non-reinforced and reinforced plastics. The testing method measures the following mechanical properties.

Tensile Strength

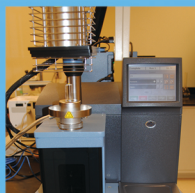
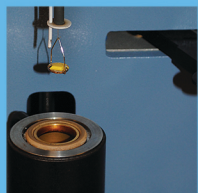
Tensile strength is the amount of force applied to a plastic before it breaks or suffers irreparable damage.

Tensile Modulus

Tensile modulus evaluates the stiffness of a material or how much stress is required before the material deforms.

Elongation

Elongation measures a material's ductility or ability to undergo stress and deformation before failure.



Capabilities related to Polymers

- FTIR Analysis of Polymers
- Plastic Testing Lab
- Polymer Analysis
- Rubber Testing Labs

Other Polymer Testing Capabilities:

- Coefficient of Thermal Expansion
- Heat Aging/Thermal Degradation
- Weathering (UV Degradation)
- Glass Transition, Crystallinity
- Polymer Identification (Micro FT-IR)
- Melt Flow Rate/Capillary Rheometry
- Composition Analysis
- Plasticizers, Additives
- UV Inhibitors, Antioxidants
- Flammability
- Inherent/Intrinsic Viscosity
- Melting Point

Polymer Testing Services

Applied Technical Services offers comprehensive Polymer testing services including plastics, elastomers, adhesives, coatings, textiles, composites, and additives. ATS has a reputation for being highly responsive to our customers' testing needs. Our staff of qualified professionals can provide the answers to your polymer problems. The Quality Assurance Program at ATS meets the most rigorous requirements of the automotive, aerospace, nuclear, and manufacturing industries.

Technical Organization/Societies

- SPE- Society of Plastics Engineers
- ACS- American Chemical Society
- ASME- American Society of Mechanical Engineers
- ASTM- American Society of Testing and Materials
- ASQ- American Society of Quality
- NCSL- National Conference of Standards Laboratory
- TAPPI- The Association of Pulp and Paper Industry

Quality Programs and Accreditations

- ISO 17025
- ISO9001
- 10 CFR 50 Appendix B
- ANS/NCSL Z540-1
- ASNT-TC-1A
- MIL Standard 410
- Over 100 Technology Sector Vendor Approvals