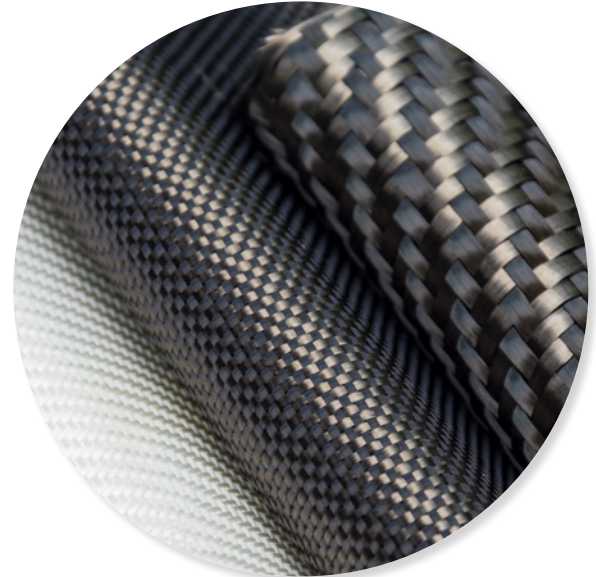


ARES-G3™ Rheometer

Thermosets Testing

Thermoset testing requires fast, accurate insight into curing behavior, gelation, and viscoelastic evolution — especially as materials shift rapidly under heat and chemical reaction. The Discovery™ ARES-G3 Rheometer is purpose-built to meet these demands, delivering high-resolution data with speed and precision superior to traditional systems. The integrated Fast Frequency Chirps method captures dynamic transitions in real time, while advanced thermal control and separate motor and transducer (SMT) architecture ensure reliable measurements across a wide temperature range. For researchers seeking uncompromising performance and publication-quality results, the ARES-G3 Rheometer sets the new standard in thermoset rheology.

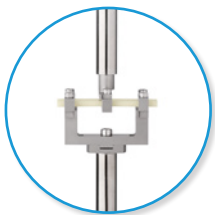


Unparalleled Thermoset Analysis Technology

Pioneering **separate motor and transducer (SMT)** technology delivers a higher level of data accuracy under a wider range of measurement conditions

Fast-responding and accurate **oxygen exclusion environment** with dual gun heaters for reliable polymer melt and composites testing

Dynamic mechanical analysis (DMA) for testing solids in bending, tension, and compression without the need of additional motors

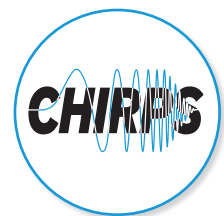


Streamlined, Reliable Testing

New touchscreen gives full experimental control right at the instrument

The industry's only¹ **force-rebalanced transducer (FRT)** delivering minimal corrections to data

High-speed data acquisition and fully integrated Fast Frequency Chirps uses optimally windowed chirps (OWCh) to reduce test time by up to 80%, enabling analysis of fast changing materials



¹ At time of publication.

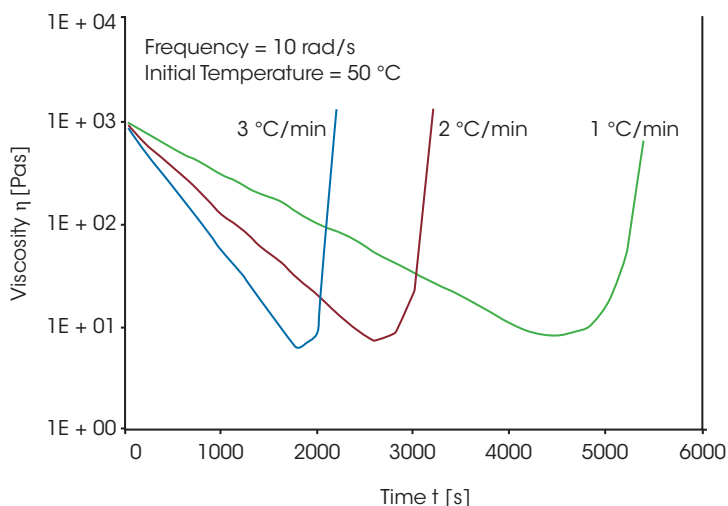
Material Analysis

Thermosets and composites are some of the most challenging materials to analyze due to their transitions from liquid, low viscosity materials to highly stiff and strong composites. Formulators and processing experts need to know how small changes impact the curing kinetics, open pot time, and strength of the final composite. The ARES-G3 Rheometer meets this need with minimal instrument corrections for reliable results. The improved oxygen exclusion and fast-responding temperature systems allow formulators to pinpoint the direct impact of formulation changes. Process engineers can replicate real-life processing conditions with the forced convection oven (FCO) and measure actual material strength. When paired with the fully integrated DMA mode, these extensive testing capabilities make the ARES-G3 Rheometer the ideal rheometer for comprehensive thermosets and composites analysis.

Testing

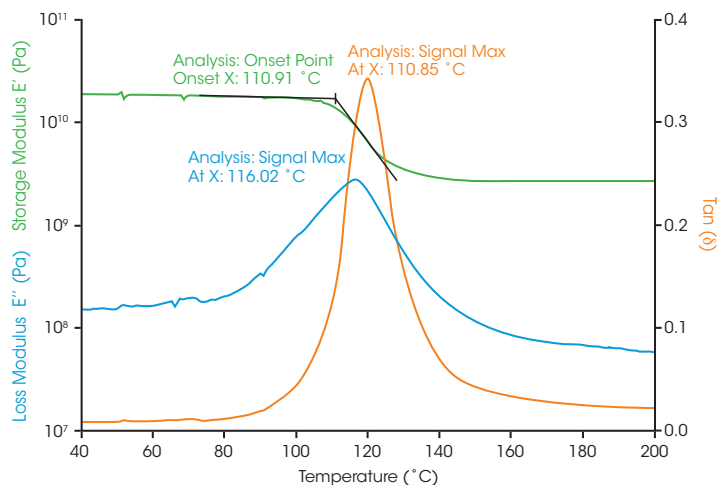
Isothermal Curing Kinetics

For thermoset and composite researchers analyzing isothermal curing kinetics, the ARES-G3 Rheometer offers unmatched speed and precision. With improved data acquisition rates and complete control over temperature change rates, the ARES-G3 Rheometer enables high-resolution isothermal scans across critical temperature intervals—from minimum viscosity to gel point. For example, users can study how different heating rates affect viscosity for key processes like lamination. These scans help researchers determine optimal processing conditions and formulations.



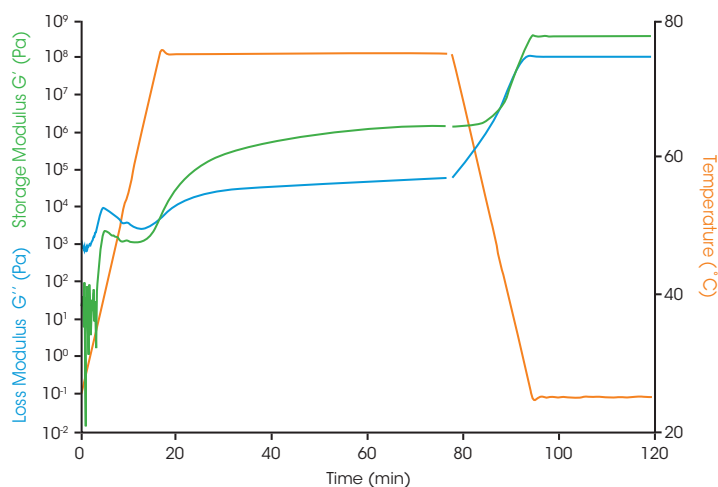
Linear and Torsional Measurements

After optimizing the curing reaction, scientists and engineers can verify the structural integrity, strength, modulus and stiffness of composites in bending and in torsion to replicate real-life applications and forces. The ARES-G3 Rheometer can easily switch to testing in DMA mode and torsion with a simple geometry exchange. With no need for additional motors or removing the oven, the ARES-G3 Rheometer streamlines switching modes to offer comprehensive testing without sacrificing instrument reliability or durability.



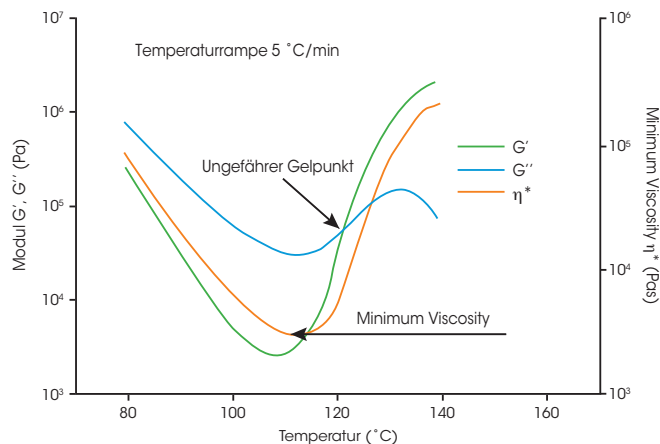
Processing Temperature Profile

Designing precise processing temperature profiles is essential for achieving optimal cure levels in thermoset polymers, where both under-curing and overcuring can compromise performance. The ARES-G3 Rheometer excels in temperature profile testing with its programmable multi-zone heating system, allowing ramp rates of 1° to 5 °C per minute and full control over temperature, time, and strain. The new, fully integrated Fast Frequency Chirps offers more information about the gel point and enables full characterization of the transient or curing structure, even in a rapid or quick transition. With this capability, the ARES-G3 Rheometer empowers scientists to simulate and refine cure cycles with greater fidelity, ensuring robust crosslinking and superior final properties.



Strength and Modulus Characteristics

Understanding the strength and modulus characteristics of thermosets is critical for predicting performance under mechanical stress, and the ARES-G3 Rheometer provides the precision and control needed for these demanding evaluations. Its advanced separate motor and transducer (SMT) architecture ensures highly accurate measurements of storage modulus (G'), loss modulus (G''), and complex viscosity (η^*)—key indicators of stiffness, elasticity, and damping behavior. With high-resolution torque sensitivity and broad strain control, the ARES-G3 Rheometer captures subtle transitions in material structure, from early-stage curing to full crosslink development. This makes it an indispensable tool for characterizing the mechanical integrity of thermosets across a wide range of temperatures and deformation conditions.



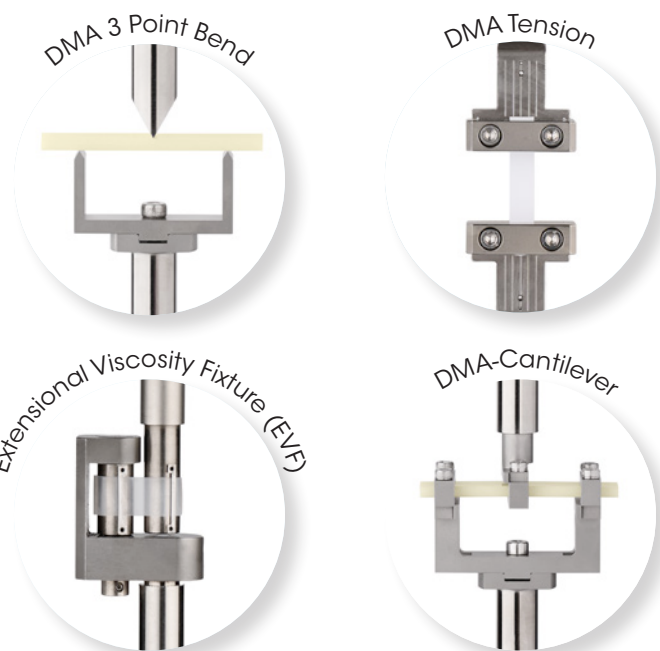
Accessory Overview

Dynamic Mechanical Analysis (DMA)

Go beyond curing characterization to measure the glass transition temperature and strength of your cured materials with integrated DMA.

Fast Frequency Chirps Capabilities

Characterize true viscoelastic behavior during the curing reaction. See subtle differences in formulation that are masked in singular isothermal cure curves.



² At time of publication.