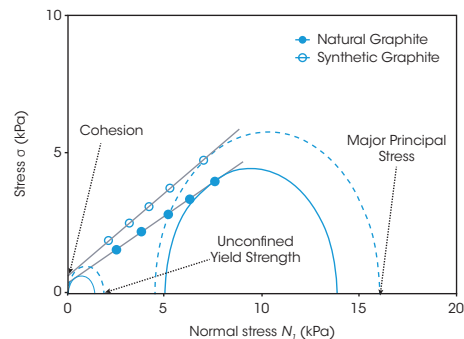
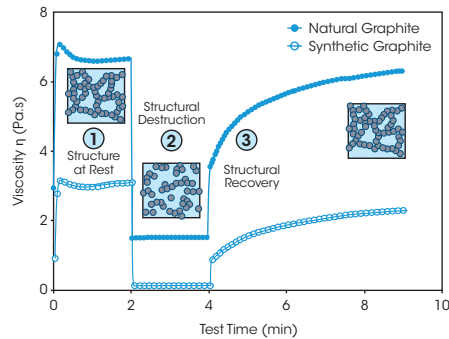
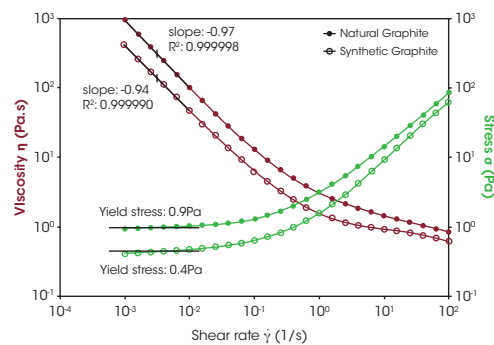
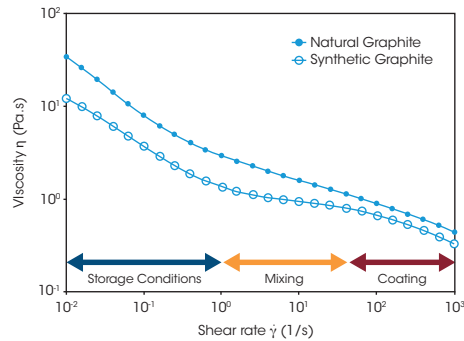


# DISCOVER RHEOLOGY

## OPTIMIZE BATTERY ELECTRODE SLURRY BEHAVIOR



### Viscosity Is Not a Single Value

- Most electrode slurries show shear thinning behavior, that is to say their viscosity decreases with higher shear rate.
- Understanding flow behavior can help identify differences in processing conditions for mixing and coating.
- Different sources of the same raw material and formulation can alter flow behavior.

### Evaluate Storage Stability by Measuring the Yield Stress

- Yield stress is the applied stress at which the material starts to flow. At stress values below the yield stress, the material does not flow.
- Knowing a slurry's yield stress helps to better understand product performance such as shelf life and stability against sedimentation.
- The synthetic graphite here shows a lower yield stress and weaker network structure.

### Troubleshoot Coating Problems Through Thixotropic Measurements

- A rheometer measures thixotropy, which describes how the viscosity of a slurry changes with time.
- This measurement provides insight into how the slurry structure deforms during the coating process and how quickly it recovers post-coating.
- This information can help predict coating performance.

### Understand Powder Cohesion and Yield Strength in Raw Materials

- Powder rheometry identifies cohesion, yield strength, and flow of a material.
- These measurements give insights into storage conditions and the ability to flow or prevent agglomeration of powder.
- The higher cohesion of the synthetic graphite indicates it will likely form agglomerates, which will require additional energy to break up.