



# Expert Insights: Avoiding Viscosity Pitfalls

Common Mistakes Labs Make – and How to Fix Them

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## Introduction

Viscosity testing seems straightforward: measure, record, repeat. But small oversights can lead to big errors – costing labs time, money, and credibility. We spoke with Brookfield’s experts to uncover the most frequent mistakes labs make and how to avoid them. Whether you’re in QC, R&D, or production, these insights will help you achieve accurate, repeatable results every time.

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## Section 1: Expert Perspective

*"Viscosity testing is about control—control of temperature, speed, and sample handling. Lose control of any one factor, and your data becomes unreliable."*

– Mark J. Coholan, Sales Engineer

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## Section 2: The Top 5 Mistakes Labs Make

### Mistake #1: Ignoring Temperature Control

- **Why It Happens:** Labs assume room temperature is “good enough.”
- **Impact:** Viscosity can change by 50% with a 10°C shift.
- **Fix:** Use Brookfield Thermosel or Temperature Control Baths for precise thermal management.

### Mistake #2: Using the Wrong Spindle

- **Why It Happens:** Spindle selection seems minor – but it’s critical.
- **Impact:** Incorrect spindle leads to off-scale readings and poor reproducibility.
- **Fix:** Refer to Brookfield spindle charts and match spindle to viscosity range.

### Mistake #3: Skipping Verification

- **Why It Happens:** Labs trust factory calibration indefinitely.

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- **Impact:** Drift over time compromises compliance and accuracy.
- **Fix:** Perform calibration verification at least annually, or more frequently if required.

## Mistake #4: Inconsistent Sample Preparation

- **Why It Happens:** Samples are tested straight from production without equilibration.
- **Impact:** Air bubbles, uneven temperature, and inconsistent shear history distort results.
- **Fix:** Standardize sample handling. Allow samples sufficient time to equilibrate at the test temperature before measurement. Pairing a reliable temperature circulator – like the LAUDA Loop 100 – with proper prep ensures thermal consistency from sample to sample.

## Mistake #5: Misinterpreting Data

- **Why It Happens:** Labs assume viscosity is constant across all conditions.
- **Impact:** Misleading conclusions about product performance.
- **Fix:** Understand shear rate, temperature, and time dependencies. Use programmable viscometers for advanced profiling.

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## Section 3: Expert Tips for Reliable Testing

- **Document Everything:** Record temperature, spindle, speed, and sample prep details.
- **Train Your Team:** Knowledge gaps lead to errors – invest in training.
- **Upgrade When Needed:** DV2Plus with advanced DV360 software and the compliant DVNext offer programmable tests and compliance features.

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## Section 4: Tools That Make a Difference

Brookfield solutions designed to eliminate these pitfalls:

- **DV2Plus Viscometer:** Global standard with programmable testing and integrated temperature control using DV360 Software. \*
- **DVNext Rheometer:** Advanced compliance features, audit trails, real-time monitoring, and integrated temperature control. \*
- **LAUDA Loop 100:** Compact Peltier-based temperature control delivering stable heating and cooling for water-jacketed Brookfield viscosity systems.

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*\*Integrated Temperature Control with connection to AMETEK Brookfield TC Series Baths and AP/SD Controllers or AMETEK Brookfield Thermosel System.*

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## Conclusion

Mistakes happen – but they don't have to. By controlling critical variables like temperature, standardizing procedures, and using purpose-built tools such as Brookfield viscometers paired with the LAUDA Loop 100, labs can achieve accurate, repeatable viscosity measurements that stand up to scrutiny.

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Repeatable



Reliable



Accurate