



Paul N. Gardner Company

STEIN HALL VISCOSITY CUP VISCOMETERS

Instructions for using and
calibrating the Stein Hall
Viscosity Cup.

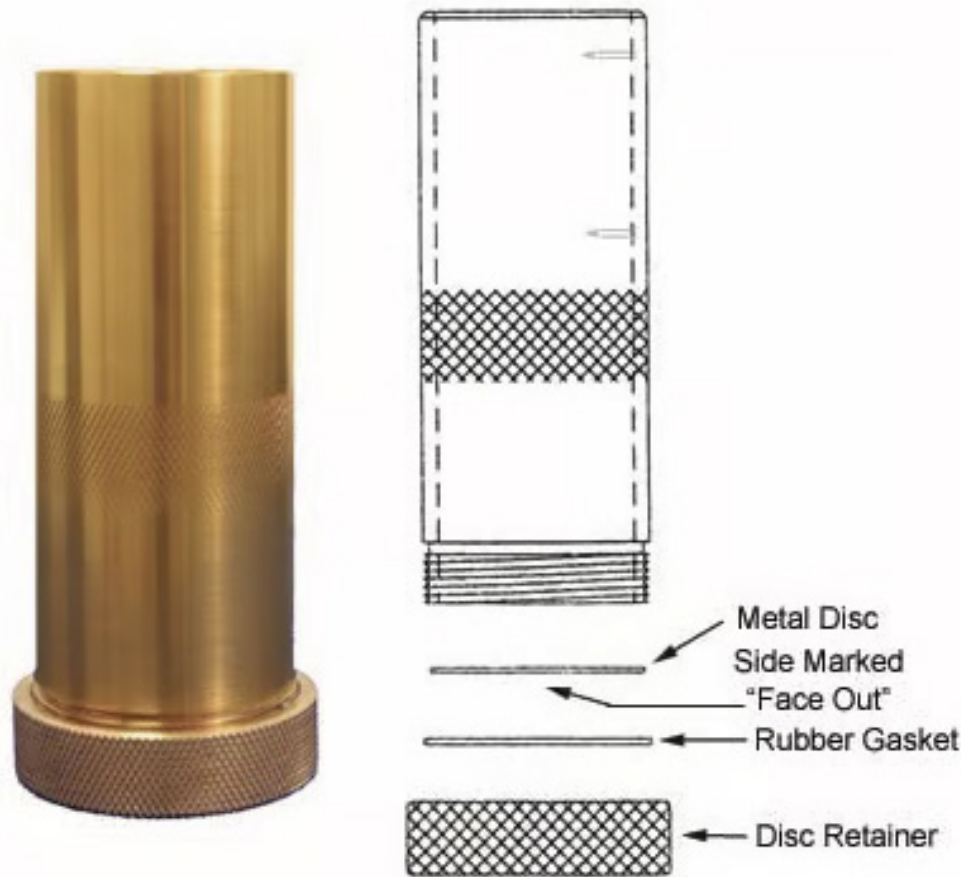


Stein Hall Viscosity Cup



The Stein Hall Viscosity Cup measures the number of seconds required for a set volume of adhesive to flow through the viscometer's orifice. Viscosity is an important property of starch-based adhesives and strongly affects bonding at the corrugator. Some pastes are too thick for certain paper grades, while others are too thin. Viscosity testing helps identify the correct consistency for the application.

The apparent viscosity of adhesives used in the manufacture of corrugated containerboard is measured by the number of seconds required for 100 cc of adhesive to pass through an orifice in a disc. The instrument used throughout the industry since 1934 is called a viscosity cup or Stein Hall Cup. Stein Hall readings do not directly correspond to readings on other viscosity scales.



Stein Hall cup assembly: metal disc, rubber gasket, and disc retainer.

Calibration Procedure

1. Check the orifice to make sure it is not plugged, corroded, or worn. Calibrate the cup after replacing the disc or whenever the disc shows wear.
2. Place a finger over the orifice and fill the cup with water at 75 °F (24 °C).
3. Remove your finger and use a stopwatch to measure the time required for the liquid level to fall from the upper pin to the lower pin.
4. The flow time should be 15 seconds (+/- 1 second). If the time is longer than 15 seconds, bend the pins together and repeat the calibration. If the time is shorter than 15 seconds, bend the pins apart and repeat the calibration.
5. Continue adjusting and checking until the flow time is 15 seconds.

Instructions for Use

1. Fill the cup with strained adhesive.
2. Using a stopwatch, measure the time it takes for the level in the cup to drop from the upper pin to the lower pin.
3. Record the flow time in seconds as the Stein Hall viscosity. Also record the adhesive temperature with the result.

Example: 42 seconds Stein Hall at 75 °F (24 °C).



Available Accessories



Metal Disc

Replacement metal disc for the Stein Hall Viscosity Cup. Use it to replace a worn or damaged disc and maintain accurate flow-time measurements and calibration.

[Buy at gardco.com](http://gardco.com)



Rubber Gasket

Replacement rubber gasket installed between the metal disc and disc retainer. It provides a proper seal around the orifice and helps prevent leakage during testing.

[Buy at gardco.com](http://gardco.com)

Stein Hall Viscosity Cup



Available Accessories (continued)



Certified Pro Ultimate Stopwatch

Digital stopwatch used to time the flow of water during calibration and adhesive during testing. Provides precise, easy-to-read timing for Stein Hall flow-time measurements.

[Buy at gardco.com](https://www.gardco.com)



Glass Beaker, 600 mL, Low Form

600 mL low-form glass beaker used to hold adhesive or calibration water for the Stein Hall cup. Its white graduation markings help support consistent sample preparation.

[Buy at gardco.com](https://www.gardco.com)