

# SAFETY AND “BEST PRACTICE” CONSIDERATIONS WHEN MEASURING VISCOSITY



**Figure 1: Brookfield DV-1 Prime Viscometer with Disc Spindle used for Viscosity Check in Food QC Lab**

**M**any companies make viscosity measurements (see Figure 1) several times a day to qualify food products for compliance with specs that relate to consumer perception of flow behavior. Sauces and dressings must pour out of bottles without difficulty, but still have enough “body” to provide suitable coating or coverage of the substrate material. The same applies to spreads (cheese, jams, condiments) which must successfully coat crackers, breads, etc. by giving a nice uniform thickness without breaking or tearing the substrate material. Therefore, the QC check for viscosity happens with each batch, if not multiple times while the food material is in process, to guarantee acceptable flow behavior.

**F**ood lab technicians may use one or more rotational viscometers several times a day in busy companies where different food items are being produced concurrently. Proper use of the viscometer requires raising and lowering the head into the material to make the viscosity measurement. The thumbwheel on the clamp which causes the instrument to go up and down requires a repetitive turning motion by the operator. Requests from food lab technicians for an easier way to position the viscometer has led to the recent introduction of a special lab stand (see Figure 2) which moves the head up and down much more easily. This time saving feature has also been hailed as an ergonomic improvement by operators who could feel the stress of this repetitive up/down motion when using the original lab stand.

**A**nother requirement for each viscosity test is to attach a spindle to the viscometer. This involves another turning motion to screw the spindle onto the coupling nut. A further complication is the left hand thread which requires rotation in the opposite direction from what the technician might expect. The obvious solution is a method that allows direct coupling of the spindle to the viscometer without a turning motion. EZ-Lock is a new system (see Figure 3) which permits direct insertion of the spindle into a specially designed chuck that secures the spindle to the instrument.



**Figure 2: Brookfield Model Q Lab Stand for Rapid and Easy Movement of the Viscometer Head into and out of the Test Sample.**



This time saving feature, which can be retrofit to existing digital viscometers, has also met approval by food lab technicians for its ergonomic appeal.

**F**or relatively little investment, these are two of the improvements that QC Labs in the food industry can employ to enhance worker safety while spurring productivity.

**Figure 3: Brookfield EZ-Lock Spindle Coupling System for Rapid and Easy Attachment of Spindle to the Viscometer.**

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By Robert G. McGregor, Sales and Marketing Manager

Brookfield Engineering Laboratories, Inc., Middleboro, MA 02346

Tel: 1.508.946.6200 ext. 143 / 1.800.628.8139 Fax: 1.508.946.6262

Email: [r\\_mcgregor@brookfieldengineering.com](mailto:r_mcgregor@brookfieldengineering.com) Website: <http://www.brookfieldengineering.com>

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