

Viscosity Testing: Do I Know Enough?

By Robert G. McGregor

We receive phone calls and emails every day from customers who believe they are not getting a correct viscosity reading in the QC Lab on material that needs to pass inspection. In some instances, everything had been working fine until suddenly a batch of material seems to be out of specification. In another situation, the QC Lab in the USA has just received a test method for material produced in another location (perhaps Europe or Asia) and the measured viscosity values don't agree. And sometimes, a raw material supplier simply reports that the viscosity is a certain value, but they say nothing about how to make the measurement. Where do you go for help? Is there a Viscosity Hot Line that can give a quick answer?



Figure 1

A little education on viscosity measurement is easy to come by and can go a long way in solving these recurring dilemmas in industry. Brookfield Engineering, the world's leading manufacturer of rotational viscometers, has published the most widely used pamphlet on viscosity entitled "**More Solutions to Sticky Problems**". (See Figure 1) This publication is available free of charge and can answer the questions raised above as well as many others. Many QC Labs keep a copy of this document on the shelf and use it to train new technicians when they first start work.

In today's business world, searching for answers on the internet is another path taken by many QC Labs. It's a simple matter of searching on the word(s) that describe the problem you have, such as "pharmaceutical viscosity" or "viscosity testing". Most viscometer manufacturers maintain websites with applications information that is useful in solving the everyday questions that come up. On the **Brookfield website** (See Figure 2), there is not only an applications section which describes how to test various materials, but also a "Frequently Asked Questions" or "FAQ" section which describes how to verify that your instrument is reading viscosity correctly.



Figure 2

Taking a class on viscosity can prove to be the most helpful of all. In a classroom environment, you can quickly come up to speed on what viscosity is, how to measure it, how to know if the problem is with your material or the instrument, etc.



Figure 3

Brookfield, for example, provides a one-day program entitled "**The Practical Course for Viscometer Operators**" (See Figure 3) which covers the basics with hands-on instruction and sends each person back to their company with helpful reference materials to share with others in the QC Lab.

The above suggestions are highly recommended steps which will give you the necessary tools to solve the everyday problems that come up with viscosity measurement. But when in doubt, always call the viscometer manufacturer to get immediate help.