

Sealer Viscosity - Is Thick Sealer Better?

Sealer viscosity is a measure of thickness as a liquid, or more specifically, it's resistance to motion or shear. In order to measure viscosity, mechanical force is applied to sealer under laboratory conditions, and it's resistance to that force is measured. To have meaningful results, the force is applied with a spindle or rotor having a specific configuration and surface area at the same exact speed each time the test is conducted.

Viscosity is created, in chemical terms, by particle charge and packing of clay, tar and water in the manufacturing process. Generally speaking, higher viscosity results from higher solids (clay and tar) content. Many people view this as a primary test of quality control. If the sealer is thick, it must be high in solids.

This can be deceiving, however. We have described many things in past articles that have a direct affect on product quality. Ratio of clay to tar (ash content) and type and composition of clay are just two things that can have a significant affect on product quality while either not affecting viscosity, or actually enhancing it.

The sealer component having the most bearing on viscosity is clay. Sealer made with low or average total solids content, but using a very high ratio of clay to resin (high ash content) will be nearly as thick as sealer made with high solids content and a correct ratio of clay to resin. While the low solids sealer appears similar (even reacting similarly with latex admixtures), to high solids sealer, its ability to withstand wear is significantly less.

Clay type and composition has a tremendous affect on the finished sealer's ability to withstand wear. Many types of clay used in common aqueous coatings applications have the ability to absorb more water than others. This provides higher viscosity, but at a price. Clays having higher absorptive qualities are generally less effective at providing wear resistance. Also, because they are able to absorb water so readily, they do so in the finished coating, greatly reducing the sealers ability to withstand abrasion while wet or submersed in water.

The Brewer Company continues to produce all of our pavement sealers using blends of clays specifically selected for their ability to add to the finished products overall wear resistance. We do not use any clay, additive or other means to increase viscosity.