USING MIL GAUGES AND VISCOSITY CUPS

Mil gauge

Conversion varnishes, catalyzed lacquers and pre-cats require that you don't exceed a specified dry mil thickness. Other finish manufacturers do not want you to exceed a wet film thickness in a single application while others may specify a certain dry mil thickness to insure adequate performance. To calculate any of these, you need to know how to use a simple tool called a mil gauge. A mil gauge is a piece of stamped metal with "teeth" in mil (one thousandths of an inch) increments. To use the gauge, spray your coating onto a test piece just like you would your project. Place the gauge down into the wet finish at a 90° angle and press down. Withdraw the gauge and note the first tooth that isn't coated with finish and the one next to it that is coated.

If you have trouble seeing clear finishes on the gauge sprinkle some talc on the teeth after you withdraw it and blow the talc off. The talc will stick to the wet teeth.

Viscosity

A viscosity cup is used to check the viscosity of a finish. The standard cup used for clear finishes is a Ford#4. **You cannot measure thick finishes like latex paint with a Ford #4.**
Viscosity is affected by temperature, so make sure the finish is at room temperature. At least 70° F.
The viscosity cup has a small hole in the bottom and you basically count the seconds that it takes for the filled cup to do this. Submerge the cup completely and take it out. Start timing when the top rim of the cup breaks the surface of the finish and draw it up 6 inches over the can. When the first "break" (or when it is no longer a solid, contiguous stream) appears in the fluid stream stop timing. The number of seconds you count is your viscosity. Make sure you clean the cup out well with a small brush as residue in the orifice can give you a false reading next time you use it.