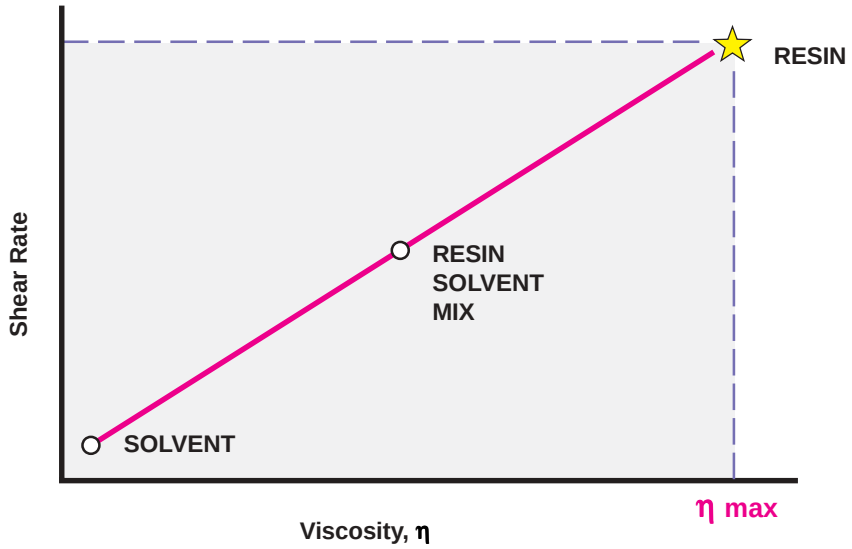
When to add Chartwell Products in Solvent-Borne Systems for Optimum Incorporation

OBJECTIVE: To maximize shear rate (energy input) used to homogenously and finely disperse Chartwell Adhesion Promoters.



Preferred point of addition is to the resin alone prior to addition of any further solvent. This is the point of maximum viscosity and maximum shear rate.

CRITICAL PROCEDURES

For Successful Use of Chartwell Adhesion Promoters in Solvent-Borne Systems

PROCEDURE:

1. **Add the Chartwell additive directly to the grind stage resin before adding any solvent, pigment or other additives.**

2. **High shear mix for 15 minutes.**
   This specifically means the use of a Cowles high speed disperser or similar. **THE USE OF A MEDIA MILL ALONE IS NOT ACCEPTABLE.**

3. Then proceed to add other grind stage components as normally done.

BACKGROUND THEORY:

All additives will perform optimally when they are solubilized in the coating system. Solubilized means that the additive exists as individual discrete molecules within the coating system. This is the objective which we strive to achieve with Chartwell additives.

In practice, however, Chartwell products will most generally NOT fully dissolve in solvent-borne coating systems since they are highly polar molecules being introduced to considerably less polar environments (the coating). Most simply, oil and water do not mix. So, we try to devise a procedure which will result in the smallest possible molecular cluster within the coating media. The use of a high speed disperser achieves this objective.