

## Coating and Packaging Process Analysis

안경현\*, 이승중  
서울대학교 화학생물공학부  
(ahnnet@snu.ac.kr\*)

Of many unit processes in flat panel display manufacturing, coating and packaing processes have rarely been studied systematically although they are even critical in the design of FPD and its productivity. In the coating process, it is very important to precisely control the flow behavior, which is dependent upon the rheology of the material. As the coating material consists of many components, monomer, binder, initiator, pigment, solvent, additives, for example, the material is a kind of complex fluids. In particular, as the material experiences very high shear flow due to the small gap of tens of micrometers and the dispersion of pigment is critical to the coating performance, flow control of complex fluids of particulate system is very important in this process. Quantitative description of coating performance, thickness and stress distrubution, has not yet been established (it will be guided by optical methods and image processing). Therefore, precise control of the process, high shear rheology, flow control of particles, quantitative description of coating performance will be the challenges of this area. In this talk, the current state of the art of the qunatitative approaches for these processes will be introduced.