

Rheological properties of Polyvinyl alcohol/Copper Nanowire suspension with or without silica nanoparticle under the LAOS flow

이승학, 현 규[†]

부산대학교

(kyuhyun@pusan.ac.kr[†])

Polyvinyl alcohol (PVA) has high adhesive property, transparency, unpoisonous and water solubility. So it can be easily treated and have long life time. In addition, PVA show high anode capacity because of numerous hydroxyl group in polymer chain. Therefore it have been used as a coating material or matrix for a long time. And Copper nanowire show high conductivity and percolation effect due to high aspect ratio. Therefore, conductivity can increase by using small amount of nanowire. The physical and chemical properties of coating material are important to make sure the final properties of film which is made through the coating and drying process. One of the methods to figure out the property of coating material is rheological approach. Rheological analysis is useful method to understand flow characteristics in macroscopic way. One of the advantages of rheological measurement is that the micro/nano scale structure can be presumed through the macroscopic method. In this study, Small and Large Amplitude Oscillatory shear flow was used to investigate the suspensions.