

디스플레이용 저융점 투명유전체 합성

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For low firing temperature, R_2O ingredient was added into spray solution containing $BaO-ZnO-B_2O_3-SiO_2$, used as transparent dielectric layers. The R_2O (Li_2O , Na_2O , K_2O) ingredients are important for affording the glass a softening temperature capability at low temperature, as well as for improving melting property of the glass. The glass powders were formed by melting and quenching process in the spray pyrolysis. The BZBS glass powders obtained by spray pyrolysis at preparation temperatures of $1400^\circ C$ had spherical shapes and dense inner structures. The dielectric layers formed from the BZBS glass powders obtained by spray pyrolysis had clean surface and dense inner structure. The addition of R_2O to the glass powders improved the transparencies of the dielectric layers at low firing temperature. The dielectric layer formed from the glass powders with appropriate amount of R_2O had transparency of 86% within the visible range even at a low firing temperature of $540^\circ C$.