

LCD용 컬러필터 보호막

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Thin layer(Overcoat) for TFT-LCD color filter

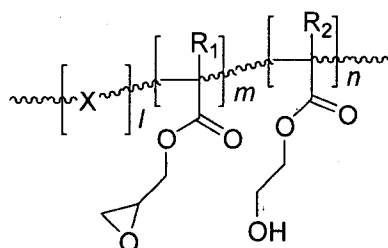
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Abstract : Over the past years, a large number of acrylate polymers have been developed and the overcoat thin layer containing acrylate polymers have been used for TFT-LCD color filter. As forming thin layer using acrylate polymers, the existing acrylate polymers have some problems such as low hardness by low Tg temperature, coating uniformity and solubility in organic solvent.

To solve these problems, we synthesized new polymer(Scheme.), containing olefin monomer, which has high Tg temperature, good coating uniformity and good solubility in organic solvent.

The overcoat thin layer containing new polymer resulted in good coating uniformity, stain, spot, scratch, heat resistance, DOP(Degree Of Planarization) on RGB glass, transparency, hardness, adhesion, anti-chemicals(anti-acid, anti-base, anti-organic solvent), insulation and anti-humidity.



Scheme. The structure of new polymer

X= Olefin monomer contains ketone, ester, hydroxy, ether, halogen, nitrile, alkoxy, phenyl functional group.

R₁ and R₂= H or CH₃

Ratio= $0 < [l/(l+m+n)] < 0.7$, $0.1 < [m/(l+m+n)] < 0.7$, $0 \leq [n/(l+m+n)] < 0.5$

Key Words : TFT-LCD, Color filter, Overcoat, acrylate polymer