

Title (en)

Multi-colour filter arrays for use in LCD and method for photographically producing said arrays

Title (de)

Mehrfarben Filteranordnung für Flüssigkristallanzeigen, sowie ein photographisches Verfahren zu deren Herstellung

Title (fr)

Arrangement de filtres polychromes pour affichage à cristaux liquides et procédé pour leur fabrication

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Application

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Abstract (en)

A method is disclosed for manufacturing a multicolour filter array element, firmly associated with a transparent electrode layer in a multicolour liquid crystal display device, comprising the steps of: (i) exposing a silver halide colour photographic print material comprising a plurality of spectrally sensitive silver halide emulsion layers, each of which are sensitive to a different region of the visible wavelength spectrum, on an optically transparent and isotropic or approximately isotropic, dimensionally stable support, by a single step multicolour pixelwise exposure, (ii) colour processing said exposed print material producing thereby in each silver halide emulsion layer a differently coloured pixel pattern, (iii) coating said colour processed print material at its silver halide emulsion layer side with a hydrophobic water-impermeable organic resin layer, (iv) curing said organic resin layer by heating said layer at temperatures between 100 DEG C and 250 DEG C, (v) depositing a transparent electrode layer on said organic resin layer and (vi) coating an alignment layer on top of said transparent electrode layer, characterised in that in a red-sensitive emulsion layer of said print material wherein at least one cyan dye image forming coupler and at least one oilformer in an cyan dye image forming coupler dispersion, said cyan dye image forming coupler corresponding to the general formula (I), <CHEM> representing a 2,5-diacylaminophenol-type colour coupler, wherein: Z represents a hydrogen atom or a coupling off group, X is a ballasting group of sufficient size rendering said colour coupler non-diffusing in an alkali-permeable layer of a photographic element, R<n>, represents H, an electron withdrawing atom or group, an aliphatic or aromatic substituent, or a linking group corresponding to the formula -Q-Rf, wherein Q is -O-, -S-, or -SO2-, and wherein Rf is a short-chain group, containing at least one electron-withdrawing group, with the proviso that at least one of R<n> represents an electron-withdrawing atom or group or an aliphatic or aromatic substituent or linking group bound to a short-chain group carrying at least one electron withdrawing atom or group, and wherein n represents an integer having a value from 1 to 5; coated on said optically transparent and isotropic or approximately isotropic, dimensionally stable support, before performing steps (iv), (v) and (vi), after heat-treatment for 1 hour at 200 DEG C a cyan-dye image density of at least 50 % versus the initial density before heating is measured; in that after applying the said method of manufacturing the support remains optically transparent for at least 80 % at 570 nm, and in that the isotropic or approximately isotropic support is dimensionally stable in that the shrinkage after heating is less than 5 %.

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