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(54) Title: PRESSURE-INSENSITIVE LIQUID CRYSTAL CELL

(57) Abstract

The invention relates to an essentially pressure-insensitive liquid crystal cell. Electrode-equipped (5, 6) plates (1, 2) are arranged at a predetermined distance from each other and define a liquid crystal layer of a thickness d . At least a first (1) of the plates is transparent and has a thickness b not exceeding 1 mm, and a modulus of elasticity E . Spacers (11) fixed in the cavity and having a height h are distributed with a spacing L and have substantially the same modulus of elasticity E as said first plate. The spacers (11) have a width not exceeding 50 μm , at least in one direction. The degree of surface coverage s by the supporting areas of the spacers (11) on said first plate (1) exceeds or is equal to a minimum value which is dependent on the type of liquid crystal. L is so selected in dependence on current values of d and b that, when applying a pressure P on the first plate (1), a maximum relative deflection $\Delta d/d$, caused by the pressure P , of said first plate between the spacers satisfies condition (A): $\Delta d/d = PL^4/4Eb^3d \leq G$, where G is equal to the value of expression (B), representing a relative compression of the spacers caused by the same pressure P , for a case where the degree of surface coverage s assumes the above-mentioned minimum value (B): $\Delta h/h = P/SE$.

