Title (en)

SECURITY ELEMENT COMPRISING MICRO- AND MACROSTRUCTURES

Title (de)

SICHERHEITSELEMENT MIT MIKRO- UND MAKROSTRUKTUREN

Title (fr)

ELEMENT DE SECURITE COMPORTANT DES MICROSTRUCTURES ET DES MACROSTRUCTURES

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Application

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Abstract (en)

[origin: WO03084764A2] The invention relates to a difficult-to-copy security element (2) that comprises a composite structure (1) with microscopically fine, optically effective structures (9) of a pattern that are embedded between two layers (5; 6) of the composite structure (1). In a plane defined by coordinate axes x and y of the pattern, in a boundary layer (8) between the layers (5; 6), the optically effective structures (9) are molded into subareas of a holographically not copiable security feature. In at least one subarea, the optically effective structure (9) is a diffractive structure (S, S*, S**) produced by additive overlay of a macroscopic overlay function (M) with a microscopically fine relief profile (R). Both the relief profile (R), the overlay function (M) and the diffractive structure (S, S*, S**) are functions of the coordinates x and y. The relief profile (R) is a light-diffractive or light-scattering optically effective structure (9) and maintains, following the overlay function (M), the predetermined profile height. The overlay function (M) is at least partially continuous and no periodic delta function or boxcar function. As compared to the relief profile (R), the overlay function (M) progresses slowly. When the composite structure (1) is tilted and turned, the observer perceives in the highlighted subareas bright, continuously moving stripes that depend on the direction of observation.

IPC 8 full level

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