

Title (en)  
DIFFRACTIVE SAFETY ELEMENT

Title (de)  
DIFFRAKTIVES SICHERHEITSELEMENT

Title (fr)  
ELEMENT DE SECURITE A DIFFRACTION

Publication  
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Application  
**EP 02805743 A 20021102**

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Abstract (en)  
[origin: WO03055691A1] The invention relates to a safety element (2) made of plastic laminate (1), comprising a mosaic-like surface pattern consisting at least of surface elements. A reflecting border layer (8) covers optically effective structures (9) in the surface elements between a molding layer (5) and a protective layer (6) of the plastic laminate (1). Light falling on the plastic laminate (1) and penetrating a covering layer (4) of the plastic laminate (1) and the molding layer (5) is diffracted in a predefined manner by means of the optically effective structures (9). A diffraction structure is formed on the surface of at least one of the surface elements by superimposing a dim structure on a linear asymmetrical diffraction grid (24) having a spatial frequency ranging from 50 lines/mm to 2000 lines/mm. The dim structure has an average peak-to-valley height ranging from 20 nm to 2000 nm and a correlation length of 200 nm to 50,000 nm.

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