

Title (en)  
OPTICAL ELEMENT AND METHOD FOR THE PRODUCTION THEREOF

Title (de)  
OPTISCHES ELEMENT UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)  
ELEMENT OPTIQUE ET PROCEDE DE FABRICATION ASSOCIE

Publication  
**EP 1395881 A1 20040310 (DE)**

Application  
**EP 02774033 A 20020529**

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Abstract (en)  
[origin: WO02097537A1] The invention relates to a method for producing an optical element, preferably a security feature, according to which a film with a first embossed hologram is provided in an embossed layer, and a second embossed hologram is embossed into the same embossed layer whereby the first embossed hologram is partially replaced by the second embossed hologram. The invention also relates to a method for producing an optical element according to which a film, which is capable of being embossed and which is provided with an embossed hologram, is at least partially filled out with a printing varnish. The invention additionally relates to a method for producing an optical element according to which the hologram embossing is prevented by a prior partial imprinting of the embossed film with curable printing varnish. The invention finally relates to optical features, which can be produced by using the inventive methods, to valuable documents containing the inventive optical feature, and to a numbering embossing unit for use in an inventive production method.

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Citation (search report)  
See references of WO 02097537A1

Citation (examination)  
• US 5956164 A 19990921 - WAITTS ROBERT ROCCO [US]  
• DE 3840037 A1 19900531 - HOLOTEC GMBH & CO KG [DE]  
• US 5986781 A 19991116 - LONG MICHAEL D [US]

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