

## Title (en)

Method for creating an opening in a multiple layer safety paper

## Title (de)

Verfahren zur Erzeugung einer Durchgangsöffnung in einem mehrlagigen Sicherheitspapier

## Title (fr)

Procédé de production d'une ouverture de passage dans un papier de sécurité multicouche

## Publication

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## Application

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## Abstract (en)

Multilayer security paper (SP1) for security documents and valuable documents (e.g. bank notes, I.D. cards etc.), in which one layer of paper (L1) contains a continuous security element (CSE) which is freely accessible on at least one side of the layer, this side being covered by a second layer of paper (L2) which has one or more holes over of the security element. Independent claims are included for (1) a method (M1) for the production of SP1 by incorporating a CSE in L1 as above and then combining it with perforated L2 so that the CSE is covered (2) multilayer paper (SP2) as above comprising at least two layers of paper made from different fibres (3) a method (M2) for the production of SP by making a first paper sheet in a first wet part of a paper machine and if necessary individualising it (e.g. with holes or a watermark), making a second sheet in a second wet part, combining the two on a take-off belt and then removing paper fibres from the still-wet second layer by suction, preferably in register with the individualisation features (4) a suction device for making thin areas or holes in wet paper as above, in the form of a suction wheel with several segment plates comprising at least one inner plate with take-off openings and two outer plates (5) a method (M3) for the production of SP by forming paper on a forming vat in the wet part of a paper machine and lifting it off onto a conveyor belt with the aid of a suction device adjacent to the vat and a short distance from the belt (6) a paper machine wire (sieve) with raised parts and lowered parts for making watermarks, in which the latter parts are structured to facilitate detachment of the paper from the wire (7) a method (M4) for the production of holes in multilayer SP by making a first paper sheet with an opening, forming a second (complete) sheet and combining it with the first, passing the combination between two layers of carrier felt and lifting the felt off the second sheet side so that some of the paper is removed with it in the region of the opening, leaving a hole through the SP (8) multilayer paper (SP3) with luminescent material and optionally another feature material distributed uniformly in the volume of at least one layer, in which this layer also shows at least two different thicknesses (9) a method (M5) for the production of SP3 as above (10) a method (M6) for testing the authenticity of SP by measuring its luminescent properties with a suitable sensor .

## Abstract (de)

Die Erfindung betrifft ein Verfahren zur Erzeugung einer Durchgangsöffnung in einem mehrlagigen Sicherheitspapier, bei dem - eine erste Papierbahn (250) gebildet und mit einer Öffnung (254) versehen wird, - eine zweite vollflächige Papierbahn (252) gebildet wird, die im noch feuchten Zustand mit der ersten Papierbahn (250) zusammengeführt wird, - die zusammengeführte erste und zweite Papierbahn (250, 252) zwischen einem erst- und einem zweitbahnseitigen Trägerfilz (256, 260) geführt werden, und - der zweitbahnseitige Trägerfilz (260) von der zusammengeführten Papierbahn (250, 252) abgehoben wird, um im Bereich der Öffnung (254) der ersten Papierbahn (250) einen Teilbereich der zweiten Papierbahn (252) mitzunehmen und dadurch eine Durchgangsöffnung in der zusammengeführten Papierbahn (250, 252) zu erzeugen.

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## Citation (applicant)

- EP 0053183 A1 19820609 - GAO GES AUTOMATION ORG [DE]
- EP 0052624 A1 19820602 - GAO GES AUTOMATION ORG [DE]
- EP 0059056 A1 19820901 - PORTALS LTD [GB]

## Citation (search report)

- [A] EP 0825297 A1 19980225 - TOKUSHU PAPER MFG CO LTD [JP]
- [A] GB 123082 A 19190918 - KANGAS PAPPERSBRUKS AKTIEBOLAG [FI]

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