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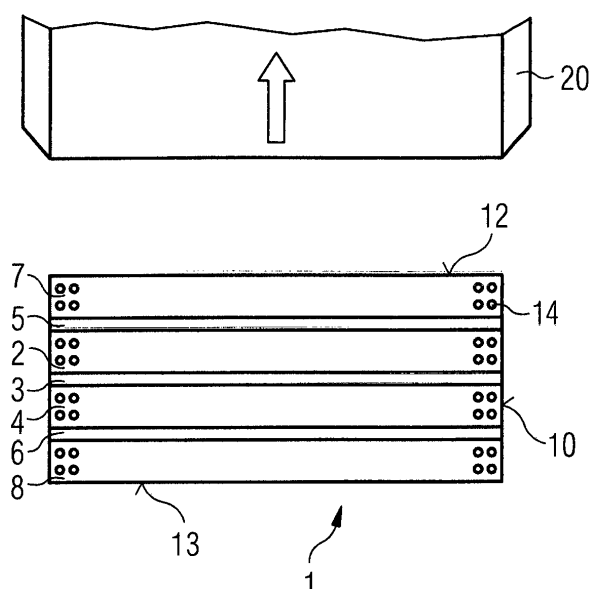
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(54) **METHOD FOR MANUFACTURING A CARD BODY, CARD BODY, SEPARATING TOOL AND APPARATUS FOR MANUFACTURING A CARD BODY**

(57) The invention relates to a method for manufacturing a multilayer card body (1), in particular for a portable data carrier, with improved properties in that the side surface of the card body is sealed during separation or after it has been separated from a laminated sheet. Further, the invention relates to a card body (1), manufactured according to the method. Besides, the invention relates to a corresponding separating tool (20). Moreover, the invention relates to an apparatus for manufacturing a multilayer card body (1). The method comprises laminating together at least two layers (2, 4) to form a laminated sheet, separating the multilayer card body from the laminated sheet, eg by cutting, milling or punching out. The sealing can be carried out by heating, eg by ultrasonic waves, by destroying and, thereby, activating capsules (14) containing adhesive, by applying a sealing material (30) to the side surface (10), wherein the sealing means (30) is an adhesive, a varnish or a solvent, by subjecting the side surface (10) to UV radiation (50) or IR illumination (60), by subjecting the side surface (10) to laser radiation (70), or by using mechanical or laser engrafted edges or micro-structuring. The separating tool (20) can be heated so as to cut and heat-seal at the same time.

FIG 3





EUROPEAN SEARCH REPORT

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EP 19 00 0032

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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X	WO 00/61379 A1 (TRUEB AG [CH]; CHRISTEN PAUL [CH]) 19 October 2000 (2000-10-19) * page 6, line 27 - page 7, line 9; figure 3 * * page 5, line 10 - line 15; figure 1 *	13-15	
X	WO 2010/031543 A1 (GIESECKE & DEVRIENT GMBH [DE]; HOFFMUELLER WINFRIED [DE] ET AL.) 25 March 2010 (2010-03-25) * page 18, line 4 - line 8 *	13-15	TECHNICAL FIELDS SEARCHED (IPC) B42D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 July 2019	Examiner Achermann, Didier
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



LACK OF UNITY OF INVENTION
SHEET B

Application Number

EP 19 00 0032

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-12, 14(completely); 15(partially)

Method for manufacturing a multilayer card body, having the following steps: laminating together at least a first layer and a second layer to form a laminated sheet, separating the multilayer card body from the laminated sheet, the multilayer card body having a top surface, a bottom surface and a side surface, and sealing the side surface of the multilayer card body during the separating step or as a step following the separating step, wherein no test for determining delamination of the layers at the side surface is performed prior to the sealing step. Technical problem: manufacture of a multilayer card body which can not be easily delaminated.

2. claims: 13, 15(all partially)

Separating tool for sealing a side surface of a multilayer card body during separation of the multilayer card body from a laminated sheet, wherein the separating tool is suitable for producing heat for sealing the side surface. Technical problem: sealing by heating.

3. claims: 13, 15(all partially)

Separating tool for sealing a side surface of a multilayer card body during separation of the multilayer card body from a laminated sheet, wherein the separating tool is suitable for destroying capsules within at least one of a first layer and a second layer of the multilayer card body or between the first layer and second layer. Technical problem: sealing by destroying capsules.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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