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(54) **Thermal imaging process providing color versatility**

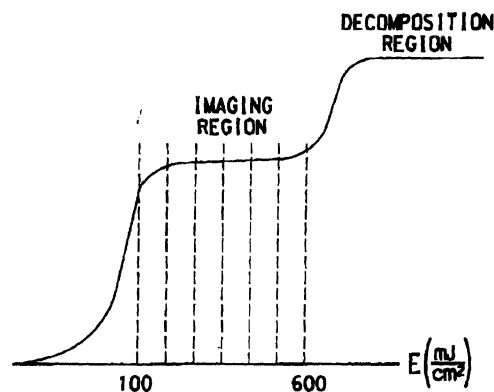
(57) A processes for laser thermal imaging and imaged laserable assemblages A method for forming an image comprising the steps of:

- (1) forming a first coating solution of a first colorant and a second coating solution of a second colorant;
- (2) providing a first base element having a first coat-able surface;
- (3) forming a first imageable element by applying an amount of the first coating solution to the coat-able surface to form a first thermally imageable layer thereon, the first thermally imageable layer having a first thermal sensitivity;
- (4) forming a first laserable assemblage including the first imageable element and a receiver element having an image receiving layer which is in contact with the first imageable element;
- (5) first imagewise exposing to laser radiation the first laserable assemblage, whereby the exposed areas of the first thermally imageable layer are transferred to the receiver element to form a first imaged receiver element;
- (6) providing a second base element having a second coat-able surface;
- (7) forming a second imageable element by applying an amount of the second coating solution to the coat-able surface to form a second thermally imageable layer thereon, the second thermally imageable layer having a second thermal sensitivity;
- (8) forming a second laserable assemblage includ-

ing the second imageable element and the first imaged receiver element, the first image of which is adjacent to the second imageable element;

(9) imagewise exposing to laser radiation, at substantially the same laser fluence as the first imagewise exposing, the second laserable assemblage, whereby the exposed areas of the second thermally imageable layer are transferred to the first imaged receiver element to form a second imaged receiver; and

(10) separating at least the second imageable element from the second imaged receiver to produce an imaged receiver having a revealed image.



**FIG. 9**

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# EUROPEAN SEARCH REPORT

Application Number  
EP 00 30 9066

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 5 766 819 A (BLANCHET-FINCHER GRACIELA BEAT) 16 June 1998 (1998-06-16) * column 29, line 4 - line 61 * ---	1-5,7-17	B41M5/34 B41M5/38 B41M7/00
A	EP 0 891 877 A (DU PONT) 20 January 1999 (1999-01-20) * claim 1 * * page 10, line 37 - line 41 * ---	1-5,7-17	
A	US 5 395 729 A (REARDON JOSEPH E ET AL) 7 March 1995 (1995-03-07) * examples * * claim 1 * ---	1-5,7-17	
A	US 5 171 650 A (ARNOLD DANA R ET AL) 15 December 1992 (1992-12-15) * column 8, line 24 - line 44 * * examples * ---	1-5,7-17	
A	US 5 837 375 A (BRAULT DONALD ARMAND ET AL) 17 November 1998 (1998-11-17) * figures * * claims * -----	6,18-21	TECHNICAL FIELDS SEARCHED (Int.Cl.7)  B41M
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>21 February 2003</b>	Examiner <b>Martins Lopes, L</b>
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p> <p>&amp; : member of the same patent family, corresponding document</p>			

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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims 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 the first ten claims.

**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:



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**LACK OF UNITY OF INVENTION  
SHEET B**

Application Number  
EP 00 30 9066

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: 1-5, 7-17**

Method of forming an image by thermal transfer wherein a first imageable element is laminated to an image receiver, the assemblage is imagewise exposed to laser radiation, and the exposed first imageable element is peeled off; a second imageable element is laminated to said image receiver, the assemblage is imagewise exposed to laser radiation, and the exposed second imageable element is peeled off; the first and second imageable elements have different thermal sensitivities, and the two laser exposures are effected at substantially the same laser fluence.

**2. Claims: 6, 17-21**

Method of stabilising a thermally transferred image on an image receiver comprising a support and an image receiving layer wherein the image receiver is laminated to a "rigidification element" comprising a support and a thermoplastic polymer layer, the image being encased between said thermoplastic polymer layer and said image receiving layer; the support of the "rigidification element" is peeled off and the thermoplastic polymer layer is laminated to a permanent substrate.

**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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21-02-2003

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82