



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 992 360 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
21.11.2001 Bulletin 2001/47

(51) Int Cl.7: **B41M 5/38**

(43) Date of publication A2:
12.04.2000 Bulletin 2000/15

(21) Application number: **99119687.4**

(22) Date of filing: **05.10.1999**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(30) Priority: **06.10.1998 JP 28417598**

(71) Applicants:
• **FUJICOPIAN CO., LTD.**
Osaka-shi, Osaka-fu (JP)
• **ALPS ELECTRIC CO., LTD.**
Ota-ku, Tokyo-to (JP)

(72) Inventors:
• **Sogabe, Jun, c/o Techn. Cent. of Fujicopian Co.**
Osaka-shi, Osaka-fu (JP)

- **Uetsuji, Fumio,**
c/o Techn. Cent. of Fujicopian Co.
Osaka-shi, Osaka-fu (JP)
- **Asabe, Yoshiyuki, Alps Electric Co., Ltd.**
Tokyo-to (JP)
- **Ohwada, Isao, c/o Alps Electric Co., Ltd.**
Tokyo-to (JP)
- **Ogiyama, Osamu, c/o Alps Electric Co., Ltd.**
Tokyo-to (JP)
- **Takikawa, Noriko, c/o Alps Electric Co., Ltd.**
Tokyo-to (JP)

(74) Representative:
Leson, Thomas Johannes Alois, Dipl.-Ing. et al
Patentanwälte
Tiedtke-Bühling-Kinne & Partner,
Bavariaring 4
80336 München (DE)

(54) **Thermal dye transfer ribbon**

(57) A thermal transfer ribbon for thermally transferring a preprinting layer onto a receptor with a poor surface smoothness in advance of formation of a printed image on the receptor is provided which comprises a foundation and at least a preprinting layer provided on

the foundation, the preprinting layer comprising a release layer, an intermediate layer and an adhesive layer stacked in this order from the foundation side, the intermediate layer having a melt viscosity of not less than 10^6 cps/160°C, and the adhesive layer having a melt viscosity of 10^4 to 10^6 cps/160°C.

EP 0 992 360 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 11 9687

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
D, A	EP 0 673 789 A (FUJI KAGAKU SHIKOYO) 27 September 1995 (1995-09-27) * page 3, line 14 - line 36 * * page 4, line 7 - line 39 * * page 5, line 11 - line 39 * * page 9, line 38 - line 48 * * claims 1,3; figures 1,2 * ----		B41M5/38
A	US 5 612 140 A (SOGABE JUN) 18 March 1997 (1997-03-18) * column 2, line 19 - column 4, line 56; figures 1,3 * ----		
A	EP 0 492 356 A (FUJI KAGAKU SHIKOYO) 1 July 1992 (1992-07-01) * page 3, line 43 - line 45 * * page 4, line 4 - line 5; figure 1 * * page 8, line 25 - line 31; claims 1,3,5; example 5; tables 1-3 * ----		
A	PATENT ABSTRACTS OF JAPAN vol. 016, no. 450 (M-1312), 18 September 1992 (1992-09-18) & JP 04 156389 A (KONICA CORP), 28 May 1992 (1992-05-28) * abstract * -----		TECHNICAL FIELDS SEARCHED (Int.CI.7) B41M
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 27 September 2001	Examiner Philosoph, L
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	

EPC FORM 1503 03 82 (P04C01)

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

EP 99 11 9687

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-09-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0673789 A	27-09-1995	JP 7257058 A	09-10-1995
		DE 69510393 D1	29-07-1999
		DE 69510393 T2	23-03-2000
		EP 0673789 A1	27-09-1995
		US 5700584 A	23-12-1997
US 5612140 A	18-03-1997	JP 7061143 A	07-03-1995
		WO 9506565 A1	09-03-1995
EP 0492356 A	01-07-1992	JP 3025311 B2	27-03-2000
		JP 4220380 A	11-08-1992
		CA 2057780 A1	22-06-1992
		EP 0492356 A1	01-07-1992
		US 5240781 A	31-08-1993
JP 04156389 A	28-05-1992	NONE	