



(11) Publication number : **0 569 285 A3**

(12) **EUROPEAN PATENT APPLICATION**

(21) Application number : **93401145.3**

(51) Int. Cl.⁵ : **B41M 5/124, D21H 27/00,
D21H 19/40, G03G 7/00**

(22) Date of filing : **04.05.93**

(30) Priority : **04.05.92 US 878048
19.02.93 US 19795**

(43) Date of publication of application :
10.11.93 Bulletin 93/45

(84) Designated Contracting States :
DE FR GB IT

(88) Date of deferred publication of search report :
01.06.94 Bulletin 94/22

(71) Applicant : **MINNESOTA MINING AND
MANUFACTURING COMPANY**
3M Center,
P.O. Box 33427
St. Paul, Minnesota 55133-3427 (US)

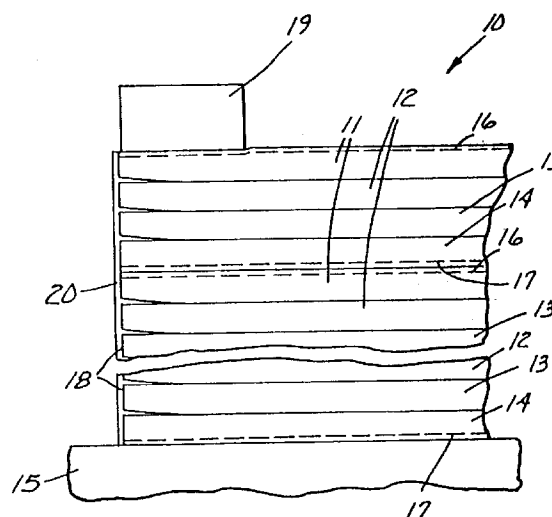
(72) Inventor : **Kraft, Keith A., c/o Minnesota Mining
and
Manufact. Co.,
2501 Hudson Road,
P.O. Box 33427
St. Paul, Minnesota 55133-3427 (US)**

(74) Representative : **Warcoin, Jacques et al**
Cabinet Régimbeau
26, avenue Kléber
F-75116 Paris (FR)

(54) **Colloids to increase coefficient of friction in carbonless paper pad coatings.**

(57) A composition suitable for use as a pad-coat or release coating for carbonless paper constructions, the composition containing about: (a) 0.1-10.0 weight percent inorganic colloid having a particle size in the range of about 1-125 nm; (b) 0.1-5.0 weight percent abherent material; (c) 60.0-99.9 weight percent water; and (d) 0-25 weight percent binder, based upon the total weight of the coating composition. In a preferred embodiment, colloidal silica is utilized. Also disclosed is a carbonless paper construction with at least a portion of at least one outer surface having the inventive pad-coat or release coating applied thereto.

The incorporation of inorganic colloidal particles into carbonless paper pad-coats results in an increase in the coefficient of friction of the pad coated surface; increase in toner adhesion and ink receptivity of the pad-coated surface; promotes uniform feeding of carbonless paper sheets into photocopiers and printing presses by reducing misfeeds and double feeds; and reduces feeder induced smudging. It does this without loss of the abhesive release effect provided by the pad-coat and without loss of the fan-out ability to produce form-sets.





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 93 40 1145

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.5)
Y	DATABASE WPI Week 8328, Derwent Publications Ltd., London, GB; AN 83-709071 & JP-A-58 095 745 (SANYO KOKUSAKU PULP) 7 June 1983 * abstract * & PATENT ABSTRACTS OF JAPAN vol. 7, no. 196 (P-219)(1341) 26 August 1983 * abstract *	1-10	B41M5/124 D21H27/00 D21H19/40 G03G7/00
Y,D	US-A-5 092 927 (P.D.CURTI) * the whole document *	1-10	
A	US-A-3 949 148 (A.AKMAN) * column 3, line 52 - line 61 * * column 6, line 41 - line 57 * * column 9, line 60 - column 10, line 21 *	6	
A	XEROX DISCLOSURE JOURNAL vol. 5, no. 4 , August 1980 , STAMFORD, CONN US page 467 A.T.AKMAN ET AL 'improved transfer paper'	6	TECHNICAL FIELDS SEARCHED (Int.Cl.5) B41M D21H G03G
A	US-A-3 738 957 (R.K.ILER) * column 1, line 48 - column 4, line 3 * * column 7, line 58 - line 67 *	1,6	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 11 March 1994	Examiner Markham, R
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			

EPO FORM 1503 03.82 (F04C01)