

(19)



Europäisches Patentamt  
European Patent Office  
Office européen des brevets

(11) Publication number:

**0 251 676  
A3**

(12)

## EUROPEAN PATENT APPLICATION

(21) Application number: 87305616.2

(51) Int. Cl.4: D06M 13/12 , D21C 9/00

(22) Date of filing: 24.06.87

(30) Priority: 27.06.86 US 879671

(43) Date of publication of application:  
07.01.88 Bulletin 88/01(84) Designated Contracting States:  
AT BE CH DE ES FR GB GR IT LI LU NL SE(88) Date of deferred publication of the search report:  
21.12.88 Bulletin 88/51(71) Applicant: The Buckeye Cellulose  
Corporation  
One Procter & Gamble Plaza  
Cincinnati Ohio 45202(US)

(72) Inventor: Dean, Walter Lee  
5226 Quince Road  
Memphis, TN 38117(US)  
Inventor: Moore, Danny Raymond  
7943 Thornbrook Cave  
Germantown, TN 38138(US)  
Inventor: Owens, James William  
226 N. Goodlet Street  
Memphis, TN 38117(US)  
Inventor: Schoggen, Howard Leon  
3354 Dogwood Lane  
Memphis, TN 38116(US)  
Inventor: Bourbon, Robert Michael  
6747 Quail Hollow Court No. 2  
Memphis, TN(US)  
Inventor: Cook, Jeffrey Todd  
6747 Quail Hollow Court No. 2  
Memphis, TN(US)

(74) Representative: Gibson, Tony Nicholas et al  
Procter & Gamble (NTC) Limited Whitley  
Road  
Longbenton Newcastle upon Tyne NE12  
9TS(GB)

(54) Individualized, crosslinked fibers and process for making said fibers.

EP 0 251 676 A3

(57) Individualized, crosslinked fiber, and process for making such fibers. The individualized, crosslinked fibers have between about 0.5 mole % and about 3.5 mole % crosslinking agent, calculated on a cellulose anhydroglucose molar basis, reacted with fibers in the form of intrafiber crosslink bonds, wherein the crosslinking agent is selected from the group consisting of C<sub>2</sub>-C<sub>8</sub> dialdehydes, C<sub>2</sub>-C<sub>8</sub> dialdehyde acid analogues having at least one aldehyde functionality, and oligomers of such C<sub>2</sub>-C<sub>8</sub> dialdehydes, and dialdehyde acid analogues. Preferably, the crosslinking agent is glutaraldehyde, and between about

0.75 mole % and about 2.5 mole % crosslinking agent react to form the intrafiber crosslink bonds. The individualized crosslinked fibers are useful in a variety of absorbent structure applications.



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.4)
X	TEXTILE RESEARCH JOURNAL, vol. 31, April 1961, pages 340-348, Princeton, New Jersey, US; S.J. O'BRIEN et al.: "Inter- and intramolecular bonding in the reaction of wrinkle resistant finishes with cellulosic fabrics" * Page 344, last paragraph - page 345, left-hand column, 17 lines after table IV *		D 06 M 13/12 D 21 C 9/00
X	TEXTILE RESEARCH JOURNAL, vol. 28, March 1958, pages 257-262, Princeton, New Jersey, US; D.M. HURWITZ et al.: "Dialdehydes as cotton cellulose cross-linkers" * Whole article *		
X	DE-A-1 444 129 (TOYO SPINNING CO., LTD) * Claims *	1-5	
X,Y	BE-A- 680 793 (RADUNER) * Claims; page 7, line 2 - page 9, line 6; page 20, line 25 - page 29, line 6 *	1-10	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
X,Y	US-A-3 932 209 (PRONoy KUMAR CHATTERJEE) * Claims; figures; page 1, column 1, line 40 - column 4, line 49 *	1-5	D 06 M A 61 L D 21 C D 21 H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26-09-1988	Examiner HELLEMANS W.J.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	