

Europäisches Patentamt European Patent Office Office européen des brevets



(11) **EP 1 230 863 A3**

(12)

EUROPEAN PATENT APPLICATION

- (88) Date of publication A3: 19.03.2003 Bulletin 2003/12
- (43) Date of publication A2: **14.08.2002 Bulletin 2002/33**
- (21) Application number: 02076724.0
- (22) Date of filing: 04.06.1996

(51) Int Cl.⁷: **A24D 3/14**, D01F 8/06, A24D 3/08, D01F 8/14, D01D 5/34, D04H 1/00, B43K 8/03, B43K 15/02

(84) Designated Contracting States:

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Designated Extension States:

AL LT LV MK RO SI

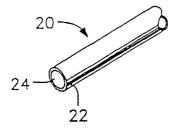
- (30) Priority: 06.06.1995 US 470594
- (62) Document number(s) of the earlier application(s) in accordance with Art. 76 EPC: 96919167.5 / 0 881 889
- (71) Applicant: Filtrona Richmond, Inc.
 Colonial Heights, Virginia 23112 (US)
- (72) Inventor: Berger, Richard M. Midlothian, Virginia 23112 (US)
- (74) Representative: Geering, Keith Edwin REDDIE & GROSE 16 Theobalds Road London WC1X 8PL (GB)

(54) Porous element

(57) The invention relates to a substantially self-sustaining, three-dimensional, porous element formed of a web of flexible thermoplastic fibrous material comprising an interconnecting network of highly dispersed continuous fibers randomly oriented primarily in a longi-

tudinal direction and bonded to each other at points of contact, wherein at least a major part of said continuous fibers are bicomponent fibers comprising a core of thermoplastic polymer material substantially totally surrounded by a sheath of polymer material selected from polyethylene terephthalate and copolymers thereof.







EUROPEAN SEARCH REPORT

Application Number EP 02 07 6724

***************************************	DOCUMENTS CONSID	ERED TO BE RELEVAI	NT	
Category	Citation of document with in of relevant pass	ndication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.CI.7)
A,D	US 4 270 962 A (SUG 2 June 1981 (1981-0 * the whole documen	6-02)	1-24	A24D3/14 D01F8/06 A24D3/08 D01F8/14
Α	EP 0 343 496 A (KUR 29 November 1989 (1 * page 4, line 32 - claims; examples 1,	989-11-29) page 5, line 4;	1,4	D01D5/34 D04H1/00 B43K8/03 B43K15/02
Α	AN 1986-147863 XP002122538	s Ltd., London, GB; UREHA CHEM. IND. CO. (1986-04-26)	1	
A	US 4 713 291 A (SAS 15 December 1987 (1		1,5,6	TECHNICAL FIELDS
	* Cordina 5, Tine 4			SEARCHED (Int.Cl.7)
				A24D D01F B43K D04H D01D
esse essentian job kandday, speces es	The present search report has t	•		
	Place of search	Date of completion of the sea	1	Examiner
	THE HAGUE	28 January 20		retre, F
X : part Y : parti docu A : tech O : non	ATEGORY OF CITED DOCUMENTS icularly relevant if taken alone icularly relevant if combined with anott ment of the same category inological background -written disclosure mediate document	E : earlier pai after the fi D : document L : document	cited in the application cited for other reasons of the same patent family	shed on, or

EPO FORM 1503 03.82 (P04C01)

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

EP 02 07 6724

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.

28-01-2003

	Patent documer cited in search rep		Publication date		Patent fam member(Publication date
US	4270962	A	02-06-1981	JP	1271138	С	25-06-1985
				JP	55067415	A	21-05-1980
				JP	59040938	В	03-10-1984
				DE	2944981	A1	29-05-1980
				GB	2036115	A,B	25-06-1980
EP	343496	A	29-11-1989	CA	1334326	A1	14-02-1995
				DE	68917784	D1	06-10-1994
				DE	68917784	T2	05-01-1995
				EP	0343496	A2	29-11-1989
				JP	2053915	Α	22-02-1990
				JP	2778981	B2	23-07-1998
				US	5318845	Α	07-06-1994
JP	61083315	А	26-04-1986	NONE			
US	4713291	Α	15-12-1987	JP	61201012	Α	05-09-1986
				JP	61201013	Α	05-09-1986
				JP	61063716	Α	01-04-1986
				CN	85108805	Α,Β	27-08-1986
				KR	9205729	B1	16-07-1992

FORM P0459

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