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(51) International Patent Classification ⁶ : D06N 7/00, 3/06, B29B 17/00	A3	(11) International Publication Number: WO 99/40250 (43) International Publication Date: 12 August 1999 (12.08.99)
(21) International Application Number: PCT/US99/02182 (22) International Filing Date: 3 February 1999 (03.02.99) (30) Priority Data: 60/073,718 4 February 1998 (04.02.98) US (71) Applicant: MANNINGTON MILLS, INC. [US/US]; Mannington Mills Road, P.O. Box 30, Salem, NJ 08079 (US). (72) Inventors: CHEN, Hao, A.; 40 Blue Stone Drive, Chadds Ford, PA 19317 (US). DESAI, Peter; 15 Ardmore Circle, Cartersville, GA 30120 (US). ZEREBECKI, Nicholas; 202 Teal Road, Mullica Hill, NJ 08062 (US). (74) Agent: KILYK, Luke, A.; Armstrong, Westerman, Hattori, McLeland & Naughton, Suite 1000, 1725 K. Street, N.W., Washington, Dc 20006 (US).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 4 November 1999 (04.11.99)
(54) Title: SURFACE COVERINGS CONTAINING FUSED RECYCLED MATERIAL AND PROCESSES OF MAKING THE SAME (57) Abstract A backing or an intermediate layer for a surface covering is described which comprises a fused recycled material, wherein the material comprises a thermoplastic material, for instance, a vinyl material from a vinyl backed carpet or vinyl backed carpet manufacturing waste or both. Surface coverings containing the backing or intermediate layer of the present invention are also described as well as methods of making the backing or intermediate layer and methods of making the surface coverings containing the backing or intermediate layer of the present invention.		

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/02182

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 D06N7/00 D06N3/06 B29B17/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 D06N B29B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 095, no. 005, 30 June 1995 (1995-06-30) & JP 07 032520 A (SHINKO KASEI KK), 3 February 1995 (1995-02-03)	1-6,10, 17-22,25
Y	abstract	23
X	PATENT ABSTRACTS OF JAPAN vol. 010, no. 230 (C-365), 9 August 1986 (1986-08-09) & JP 61 063783 A (KOTOBUKIYA FURONTE KK), 1 April 1986 (1986-04-01)	1-4,6, 12,13, 15,19, 20,22, 24-26, 29-31,34
	abstract	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search

15 June 1999

Date of mailing of the international search report

23. 09. 1999

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/02182

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 590 189 A (SINCOL CO LTD) 6 April 1994 (1994-04-06) page 2, last paragraph; claims 1,4,5,8 page 3, line 29 - line 44 ---	1-4,6, 13,15, 19,20, 22,24-26
X	EP 0 518 014 A (HUELS CHEMISCHE WERKE AG) 16 December 1992 (1992-12-16) column 3, line 51 -column 4, line 30 page 5, line 11 - line 32 ---	1-4,6, 13-15, 18-20, 22,24-26
X	EP 0 595 063 A (VORWERK CO INTERHOLDING) 4 May 1994 (1994-05-04) column 4, line 42 -column 6, line 48; claims; figures ---	1-4,6,8, 9,13-15, 18-20, 22, 24-28, 30,31,34
X	WO 94 16138 A (BERCOPA SA ;SCHMITZ CLAUDE (LU)) 21 July 1994 (1994-07-21) page 2, line 32 -page 4, line 38 ---	1-4,6, 12,13, 19,20, 22,25, 26,29
X	DE 94 21 584 U (AZO SYNTHETIK FERTIGUNGS UND B) 11 April 1996 (1996-04-11) page 3, last paragraph -page 4, last line; claims ---	1-4,7, 15, 18-20, 22,24,25
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P,X	EP 0 867 557 A (COLLINS & AIKMAN FLOORCOVERING) 30 September 1998 (1998-09-30) column 2, line 29 - line 56 column 3, line 21 -column 5, line 10 ---	1-4,6, 10,19, 20,22
Y	US 4 689 256 A (SLOSBERG DAVID K ET AL) 25 August 1987 (1987-08-25) column 5, line 64 -column 7, paragraph 1; figures ---	23
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INTERNATIONAL SEARCH REPORT

International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DATABASE WPI Section Ch, Week 9302 Derwent Publications Ltd., London, GB; Class A14, AN 93-012678 XP002105974 & JP 04 339645 A (SUMINOE TEXTILE), 26 November 1992 (1992-11-26) abstract</p> <p style="text-align: center;">---</p>	<p>1,3,4,6, 8,17,19, 20,22, 25,27</p>
A	<p style="text-align: center;">---</p> <p>FR 2 159 418 A (UNIROYAL INC) 22 June 1973 (1973-06-22) claims</p> <p style="text-align: center;">---</p>	<p>30</p>
A	<p style="text-align: center;">---</p> <p>WO 97 27242 A (INTERFACE RESEARCH ;TERRY C EDWARD (US); HENSLER CONNIE D (US)) 31 July 1997 (1997-07-31) page 1, line 10 -page 2, line 11 -----</p>	<p>35,38, 41,42</p>

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/ 02182

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see Further Information PCT/ISA/210

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-4, 6-15, 17-20, 22-45

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

1. Claims: 1-4,6-15,17-20,22-45

Carpet comprising a backing containing fused recycled thermoplastic material and method for making it corresponding to claims 1-4,6-15,17-20 and 22-45.

2. Claims: 5,16,21,51,52

surface covering comprising a backing containing the thermoplastic recycled material and a thermoplastic wear layer corresponding to claims 5,16,21,51 and 52.

3. Claims: 46-50

Surface covering comprising a backing of at least two layers of fused thermoplastic material and method for making it corresponding to claims 46-50.

INTERNATIONAL SEARCH REPORT

...formation on patent family members

International Application No

PCT/US 99/02182

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