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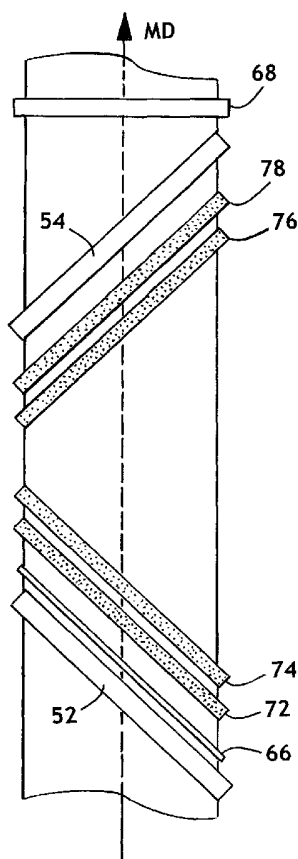
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[Continued on next page]

(54) Title: HIGH STRENGTH UNIFORMITY NONWOVEN LAMINATE AND PROCESS THEREFOR



(57) Abstract: The present invention provides nonwoven laminate materials with high overall uniformity of material properties, particularly tensile strength properties. The present invention also includes methods for forming the nonwoven laminate materials wherein the fiber extrusion and drawing apparatus are oriented at a non-right angle with respect to the direction of web production or MD.

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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
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- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/34314

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 D04H3/16

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 7 D04H D01D

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)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 569 860 A (KIMBERLY CLARK CO) 18 November 1993 (1993-11-18)	1,2,5, 7-12,14, 20
Y	page 2, line 8 - page 3, line 43  page 4, line 11 - page 5, line 51; figures 1,2; example 3	3,4,6, 13, 15-19, 21,22,27
A	US 3 502 763 A (HARTMANN LUDWIG) 24 March 1970 (1970-03-24) column 6, line 70 - column 7, line 2; figure 8  ----- -/--	1

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier document but published on or after the international filing date  
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
"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  
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.  
"&" document member of the same patent family

Date of the actual completion of the international search

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Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 03/34314

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 999 080 A (BOICH HEINZ-H) 12 March 1991 (1991-03-12)	1,28
A	column 3, line 39 - column 4, line 18; figures 1-6	29
Y	column 2, lines 41-46	22-27
X	----- US 5 968 557 A (GERKING LUEDER ET AL) 19 October 1999 (1999-10-19) column 3, line 59 - column 4, line 18; figure 4	1
Y	----- WO 98/51474 A (KIMBERLY CLARK CO) 19 November 1998 (1998-11-19)  page 7, lines 22-26 page 15, lines 7-30	3,4,6, 13,15, 17,19
Y	----- US 5 484 645 A (LICKFIELD DEBORAH K ET AL) 16 January 1996 (1996-01-16) column 1, lines 19-27 column 2, line 5 - column 3, line 18 column 4, lines 19-26	16,18
Y	----- US 5 883 026 A (BOWEN JR UYLES WOODROW ET AL) 16 March 1999 (1999-03-16) column 3, line 1 - column 4, line 47	21
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Y	----- US 4 656 081 A (ANDO KATSUTOSHI ET AL) 7 April 1987 (1987-04-07) column 6, line 29 - column 7, line 8; figure 8b	24-26
A	----- US 6 177 370 B1 (HENRY SKOOG ET AL) 23 January 2001 (2001-01-23) column 4, line 44 - column 5, line 42 column 13, lines 5-11	29
A	----- US 5 482 765 A (BRADLEY STEPHEN S ET AL) 9 January 1996 (1996-01-09) column 6, line 46 - column 7, line 14	10-12

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 03/34314

## 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.: 1  
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:  
see FURTHER INFORMATION sheet PCT/ISA/210
  
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:

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.:

### 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

Continuation of Box I.2

Claims Nos.: 1

Present claim 1 relate to a nonwoven defined by reference to a desirable characteristic or property, namely tensile strength

The claim covers all nonwovens having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such nonwovens. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the nonwoven by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the nonwoven having not high degree of MD fiber directionality mentioned in the description at page 3 lines 3-18, page 17 line 23- page 18 line 22.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 03/34314

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