

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

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SUEDE

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing

(day/month/year)

14.02.2017

Applicant's or agent's file reference

P41405560PCT00

IMPORTANT NOTIFICATION

International application No.

PCT/SE2014/051550

International filing date (day/month/year)

19.12.2014

Priority date (day/month/year)

Applicant

Sca Hygiene Products AB

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P41405560PCT00		FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/SE2014/051550		International filing date (day/month/year) 19.12.2014		Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC INV. A61F13/494				
Applicant Sca Hygiene Products AB				
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☒ (sent to the applicant and to the International Bureau) a total of <u>4</u> sheets, as follows: ☒ sheets of the description, claims and/or drawings which have been amended and/or sheets containing rectifications authorized by this Authority, unless those sheets were superseded or cancelled, and any accompanying letters (see Rules 46.5, 66.8, 70.16, 91.2, and Section 607 of the Administrative Instructions). ☐ sheets containing rectifications, where the decision was made by this Authority not to take them into account because they were not authorized by or notified to this Authority at the time when this Authority began to draw up this report, and any accompanying letters (Rules 66.4bis, 70.2(e), 70.16 and 91.2). ☐ superseded sheets and any accompanying letters, where this Authority either considers that the superseding sheets contain an amendment that goes beyond the disclosure in the international application as filed, or the superseding sheets were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in item 4 of Box No. I and the Supplemental Box (see Rule 70.16(b)). b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing, in the form of an Annex C/ST.25 text file, as indicated in the Supplemental Box Relating to Sequence Listing (see paragraph 3ter of Annex C of the Administrative Instructions).				
4. This report contains indications relating to the following items: ☒ Box No. I Basis of the report ☐ Box No. II Priority ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability ☐ Box No. IV Lack of unity of invention ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement ☐ Box No. VI Certain documents cited ☐ Box No. VII Certain defects in the international application ☐ Box No. VIII Certain observations on the international application				
Date of submission of the demand 19.10.2016		Date of completion of this report 14.02.2017		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465		Authorized officer Schmitt-Humbert, C Telephone No. +49 89 2399-7351		



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/SE2014/051550

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
- ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a) and (b))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-15 as published

Claims, Numbers

1-15 filed in electronic form on

25-01-2017

Drawings, Sheets

1/7-7/7 as published

- ☐ a sequence listing - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☒ the claims, Nos. 16
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since either they are considered to go beyond the disclosure as filed, or they were not accompanied by a letter indicating the basis for the amendments in the application as filed, as indicated in the Supplemental Box (Rules 70.2(c) and (c-bis)):
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
5. ☐ This report has been established:
- ☐ taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rules 66.1(d-bis) and 70.2(e)).
 - ☐ without taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91(Rules 66.4bis and 70.2(e)).

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/SE2014/051550

6. ☒ With regard to top-up searches (Rules 66.1^{ter} and 70.2(f)):
- ☐ A top-up search was carried out by this Authority on (all discovered documents are listed in the Supplemental Box Relating to Top-up Search).
 - ☐ Additional relevant documents have been discovered during the top-up search.
 - ☒ No top-up search was carried out by this Authority because it would serve no useful purpose.
7. ☐ Supplementary international search report(s) from Authority(ies) has/have been received and taken into account in establishing this report (Rule 45bis.8(b) and (c)).

* If item 4 applies, some or all of those sheets may be marked "superseded".

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-15</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>1-15</u>
	No: Claims	
Industrial applicability (IA)	Yes: Claims	<u>1-15</u>
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

- D1 WO 2013/005423 A1 (UNICHARM CORP ET AL) 10 January 2013 (2013-01-10)
- D2 EP 1 870 067 A1 (KAO CORP) 26 December 2007 (2007-12-26)
- D3 EP 2 540 269 A1 (UNICHARM CORP) 2 January 2013 (2013-01-02)
- D4 EP 2 589 359 A1 (UNICHARM CORP) 8 May 2013 (2013-05-08)
- D5 WO 2006/093439 A1 (SCA HYGIENE PROD AB ET AL) 8 September 2006 (2006-09-08)
- D6 US 2004/210205 A1 (VANGOMPEL PAUL ET AL) 21 October 2004 (2004-10-21)

2 Claim 1 reads as follow:

"A pant type disposable absorbent product comprising a front body panel (1), a back body panel (2) positioned at a distance from said front body panel, and an absorbent member (3) being attached to and bridging said front body panel and said back body panel; said absorbent product having a longitudinal central axis X-X and a transverse central axis Y-Y;

said front body panel (1) being substantially rectangular, and having a waist edge (4), two side edges (5, 6), and an inward edge (7) comprising a crotch edge (8), and leg opening edges (9, 10) on each side of the crotch edge, between the crotch edge (8) and each side edge (5, 6), said front body panel being at least partially elasticized,

said back body panel (2) having a waist edge (12), two side edges (13, 14), a crotch edge (15), and leg opening edges (16, 17) on each side of the crotch edge, between the crotch edge (15) and each side edge (13, 14), wherein a distance from the crotch edge (15) to the waist edge (12) is greater than the length of the side edges (13, 14); and said back body panel being at least partially elasticized;

the side edges (5, 6) of the front body panel (1) being joined to the corresponding side edges (13, 14) of the back body panel (2);

said absorbent member (3) having a substantially rectangular shape, and comprising a liquid permeable top sheet layer (19), an absorbent body (20) and a liquid impermeable back sheet layer (21); and

comprising a front attachment portion (22) being attached to the front body panel (1), a back attachment portion (23) being attached to the back body panel (2), and an intermediate crotch portion (24) extending from the crotch edge (8) of the inward edge of the front body panel (1) to the crotch edge (15) of the back body panel (2); and

said absorbent member (3) comprises leg elastics (25) on each side of the intermediate crotch portion (24), and side leakage barriers (26) on each side of the absorbent member inward of the leg elastics (25), said side leakage barriers (26) extending along substantially the entire length of the absorbent member (3), and comprising elastics (27) at a distal edge thereof;

wherein

the elastics (27) of the side leakage barriers (26) has a first retraction force F_1 , and the leg elastics (25) on the intermediate crotch portion (24) has a second retraction force F_2 , the second retraction force being greater than the first retraction force, and the ratio of said first retraction force F_1 to said second retraction force F_2 is $F_1:F_2 = 1:1.2$ to $1:2.8$, preferably $1:1.5$ to $1:2.5$, more preferably $1:1.7$ to $1:2.3$, and

wherein the absorbent body comprises two folding lines (32, 33) arranged in the longitudinal direction in the layer of absorbent material (28) comprised in the absorbent body (20) of the absorbent member (3)."

- 3 None of D1-D6 discloses a pant-type absorbent article wherein the leg elastics and the elastics in the sleeves have different retraction forces, or that they differ in elasticity in any way, nor does they disclose any folding lines in the absorbent body.

Independent claim 1 and dependent claims 2-15 are therefore considered new in the sense of Art. 33(2) PCT.

- 4 Document D1 is considered to represent the closest prior art relevant to independent claim 1.

By providing the different retraction forces in the leg elastics and the elastics in the sleeves as specified in claim 1, a bowl shape is obtained, as well as an improved tight fit around the thighs is obtained by the leg elastics, and gentle sealing against the skin in the genital area by the leakage barriers (see description p. 5, lines 10-20). The two folding lines arranged in the longitudinal direction in the layer of absorbent material further contribute to an improved bowl shape. The improved bowl shape provided in the crotch portion of the article upon wearing increases the ability of the article to temporarily store a pool of liquid, and consequently reduces the risk of leakage, while at the same time providing a gentle sealing against the skin in the genital area.

4.1 Starting from document D1, the problem to be solved may be seen in the provision of pant-type absorbent article that upon wearing increases the ability of the article to temporarily store a pool of liquid, and consequently reduces the risk of leakage, while at the same time providing a gentle sealing against the skin in the genital area.

4.2 By looking at a solution to the above defined problem, the skilled person would come across the disclosure of document D2.

Document D2 discloses that the outermost cuff should have a higher contractibility compared to the inner cuffs, but is silent regarding the relation between the retraction forces. There is no discussion as to how much more contractive the force of the outermost cuff should be, compared to the inner cuffs. The skilled person, aiming to solve the problem above of reducing the risk of leakage, while at the same time providing a gentle sealing against the skin in the genital area, and having knowledge of D2, would not choose the solution according to claim 1, since D2 does not disclose the defined retractions force ratio $F1:F2$ or any folding lines.

4.3 Independent claim 1 is therefore considered inventive in the sense of Art. 33(3) PCT.

4.4 Similarly, dependent claims 2-15 are considered to involve an inventive step (Art. 33(3) PCT).

Zacco Sweden AB, P.O.Box 5581, SE-114 85 Stockholm, Sweden

European Patent Office
D-80298 MUNICH
Germany

Via epoline

Date: 25 January 2017
Our ref: P41405560PCT00 MBN/PETSTO

Appl. No.: PCT/SE2014/051550
Applicant: SCA HYGIENE PRODUCTS AB

Dear Sirs,

This is in response to the Written Opinion by the IPEA dated 29 November 2016.

We hereby submit amended claims, wherein claim 11 has been amended to be dependent only on claims 1-8.

Claim 1 as filed together with the Demand was amended by introducing the features of original claims 2 and 9. Original claim 9 was dependent on original claims 1-8. Therefore, the dependencies of claims 2-10 as amended find support in original claims 1-12. By means of the new amendment in claim 11 to be dependent only on claims 1-8, also this dependency finds support in the original claim set. The same applies to claims 12-15, which are dependent on claims 1-11.

Yours faithfully
Zacco Sweden AB



Maria Börlin

Encl. Amended claims clean and marked

AMENDED CLAIMS

1. A pant type disposable absorbent product comprising a front body panel (1), a back body panel (2) positioned at a distance from said front body panel, and an absorbent member (3) being attached to and bridging said front body panel and said back body panel; said absorbent product having a longitudinal central axis X-X and a transverse central axis Y-Y;

said front body panel (1) being substantially rectangular, and having a waist edge (4), two side edges (5, 6), and an inward edge (7) comprising a crotch edge (8), and leg opening edges (9, 10) on each side of the crotch edge, between the crotch edge (8) and each side edge (5, 6), said front body panel being at least partially elasticized,

said back body panel (2) having a waist edge (12), two side edges (13, 14), a crotch edge (15), and leg opening edges (16, 17) on each side of the crotch edge, between the crotch edge (15) and each side edge (13, 14), wherein a distance from the crotch edge (15) to the waist edge (12) is greater than the length of the side edges (13, 14); and said back body panel being at least partially elasticized;

the side edges (5, 6) of the front body panel (1) being joined to the corresponding side edges (13, 14) of the back body panel (2);

said absorbent member (3) having a substantially rectangular shape, and comprising a liquid permeable top sheet layer (19), an absorbent body (20) and a liquid impermeable back sheet layer (21); and

comprising a front attachment portion (22) being attached to the front body panel (1), a back attachment portion (23) being attached to the back body panel (2), and an intermediate crotch portion (24) extending from the crotch edge (8) of the inward edge of the front body panel (1) to the crotch edge (15) of the back body panel (2); and

said absorbent member (3) comprises leg elastics (25) on each side of the intermediate crotch portion (24), and side leakage barriers (26) on each side of the absorbent member inward of the leg elastics (25), said side leakage barriers (26) extending along substantially the entire length of the absorbent member (3), and comprising elastics (27) at a distal edge thereof;

wherein

the elastics (27) of the side leakage barriers (26) has a first retraction force F1, and the leg elastics (25) on the intermediate crotch portion (24) has a second retraction force F2, the second retraction force being greater than the first retraction force, and the ratio of said first retraction force F1 to said second retraction force F2 is $F1:F2 = 1:1.2$ to $1:2.8$, preferably $1:1.5$ to $1:2.5$, more preferably $1:1.7$ to $1:2.3$; and

wherein the absorbent body comprises two folding lines (32, 33) arranged in the longitudinal direction in the layer of absorbent material (28) comprised in the absorbent body (20) of the absorbent member (3).

2. The product of claim 1, wherein the elastics (27) of the side leakage barriers (26) have a length L10, and the leg elastics (25) on the intermediate crotch portion (24) has a length L12, and the ratio of the length L12 of the leg elastics (25) to the length L10 of the elastics (27) of the side leakage barriers is $L12:L10 = 1:1.2$ to $1:2$, preferably $1:1.4$ to $1:1.8$.

3. The product of any one of claims 1-2, wherein front leg elastics (11) are arranged on each leg opening edge (9, 10) of the front body panel (1), and back leg elastics (18) are arranged on each leg opening edge (16, 17) of the back body panel (2).

4. The product of any one of claims 1-3, wherein a layer of absorbent material (28) comprised in the absorbent body (20) has a density of $0.092\text{--}0.160\text{ g/cm}^3$ and a basis weight of 480 to 640 g/m^2 .

5. The product of any one of claims 1-4, wherein the layer of absorbent material (28) comprised in the absorbent body (20) is an embossed layer comprising cellulose pulp and superabsorbent particles.

6. The product of claim 5, wherein the embossed layer comprises embossed areas (34) forming an embossing pattern substantially uniformly distributed over the layer of absorbent material, said embossed areas covering $5\text{--}15\%$, preferably $7\text{--}13\%$ of the surface of the layer of absorbent material.

7. The product of claim 6, wherein the absorbent material has a density in the embossed areas, which is $0.28 - 0.62\text{ g/cm}^3$.

8. The product of any one of claims 1-7, wherein the absorbent body (20) has a length L3, and the folding lines (32, 33) extend along $10\text{--}50\%$ of the length L3 of the absorbent body (20).

9. The product of any one of claims 1 -8, wherein the folding lines (32, 33) are embossed lines, in which the absorbent material is compressed to a lower thickness than an overall thickness of the layer of absorbent material (28).

10. The product of claim 9, wherein the density in the area of the folding lines (32, 33) is equal to or higher than the density in the embossed areas (34) of the embossing pattern.

11. The product of any of claims 1-8, wherein the folding lines (32, 33) are cuts or longitudinal openings in the layer of absorbent material (28), having a width in the transverse direction of $0\text{--}7\text{ mm}$.

12. The product of any one of claims 1-11, wherein the leg elastics (25) comprises two or more elastic threads (38) arranged in parallel longitudinally adjacent to the edges (39, 40) of the intermediate crotch portion (24) of the absorbent member.

13. The product of claim 12, wherein the absorbent member (3) comprises an edge covering piece (35) in the intermediate crotch portion (24), said edge covering piece (35) being in the form of a separate piece of sheet material, which is attached to the garment side (36) of the back sheet (21) along an attachment line (41), and wrapped around the longitudinal edges (39, 40) of the back sheet (21) and top sheet (19), and attached to the body facing side (37) of the top sheet inward of the elastic threads (38).

14. The product of claim 13, wherein the edge covering piece (35) is tightly wrapped around the longitudinal edges (39, 40) of the back sheet (21) and top sheet (19) in such a way that substantially no excessive sheet material is present outside of the outermost elastic thread.

15. The product of claim 13 or 14, wherein said edge covering piece (35) extends further inwards from the attachment line (49) on the top sheet (19), whereby the side leakage barriers (26) are formed integrally with the edge covering piece (35).

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REIVINDICACIONES

1. Un producto absorbente desechable tipo calzón que comprende un panel de cuerpo frontal, un panel de cuerpo posterior posicionado a una distancia desde dicho panel de cuerpo frontal, y un miembro absorbente uniéndose a y conectando dicho panel de cuerpo frontal y dicho panel de cuerpo posterior; dicho producto absorbente teniendo un eje central longitudinal X-X y un eje central transversal Y-Y; dicho panel de cuerpo frontal siendo sustancialmente rectangular, y teniendo un borde de cintura, dos bordes laterales, y un borde interior comprendiendo un borde de entrepierna, y bordes de abertura para pierna en cada lado del borde de entrepierna, entre el borde de entrepierna y cada borde lateral, dicho panel de cuerpo frontal siendo al menos parcialmente elástico, dicho panel de cuerpo posterior teniendo un borde de cintura, dos bordes laterales, un borde de entrepierna, y bordes de abertura para pierna en cada lado del borde de entrepierna, entre el borde de entrepierna y cada borde lateral, en donde una distancia desde el borde de entrepierna al borde de cintura es mayor que la longitud de los bordes laterales; y dicho panel de cuerpo posterior siendo al menos parcialmente elástico; los bordes laterales del panel de cuerpo frontal uniéndose a los bordes laterales correspondientes del panel de cuerpo posterior; dicho miembro absorbente teniendo una

forma sustancialmente rectangular, y comprendiendo una capa de hoja superior permeable a líquido, un cuerpo absorbente y una capa de hoja posterior impermeable a líquido; y comprendiendo una porción de unión frontal uniéndose al

5 panel de cuerpo frontal, una porción de unión posterior uniéndose al panel de cuerpo posterior, y una porción de entrepierna intermedia extendiéndose desde el borde de entrepierna del borde interior del panel de cuerpo frontal al borde de entrepierna del panel de cuerpo posterior; y

10 dicho miembro absorbente comprende elásticos para pierna en cada lado de la porción de entrepierna intermedia, y barreras contra derrame laterales en cada lado del miembro absorbente dentro de los elásticos para pierna, dichas barreras contra derrame laterales extendiéndose a lo largo

15 de sustancialmente la longitud completa del miembro absorbente, y comprendiendo elásticos en un borde distal de las mismas; en donde el elástico de las barreras contra derrame laterales tiene una primera fuerza de retracción F1, y el elástico para pierna en la porción de entrepierna

20 intermedia tiene una segunda fuerza de retracción F2, la segunda fuerza de retracción siendo mayor que la primera fuerza de retracción, y la proporción de dicha primera fuerza de retracción F1 a dicha segunda fuerza de retracción F2 es $F1:F2 = 1:1.2$ a $1:2.8$, preferentemente

25 $1:1.5$ a $1:2.5$, más preferentemente $1:1.7$ a $1:2.3$; y

caracterizado porque el cuerpo absorbente comprende dos líneas plegables instaladas en la dirección longitudinal en la capa de material absorbente comprendida en el cuerpo absorbente del miembro absorbente.

5 2. El producto de conformidad con la reivindicación 1, caracterizado porque los elásticos de las barreras contra derrame laterales tienen una longitud L10, y el elástico para pierna en la porción de entrepierna intermedia tiene una longitud L12, y la proporción de la
10 longitud L12 del elástico para pierna a la longitud L10 de los elásticos de las barreras contra derrame laterales es $L12:L10 = 1:1.2$ a $1:2$, preferentemente $1:1.4$ a $1:1.8$.

3. El producto de conformidad con cualquiera de las reivindicaciones 1 y 2, caracterizado porque los
15 elásticos para pierna frontales se instalan en cada borde de abertura para pierna del panel de cuerpo frontal, y elásticos para pierna posteriores se instalan en cada borde de abertura para pierna del panel de cuerpo posterior.

4. El producto de conformidad con cualquiera de
20 las reivindicaciones 1 a 3, caracterizado porque una capa de material absorbente comprendida en el cuerpo absorbente tiene una densidad de $0.092-0.160 \text{ g/cm}^3$ y un peso base de 480 a 640 g/m^2 .

5. El producto de conformidad con cualquiera de
25 las reivindicaciones 1 a 4, caracterizado porque la capa de

material absorbente comprendida en el cuerpo absorbente es una capa realzada comprendiendo pulpa de celulosa y partículas superabsorbentes.

6. El producto de conformidad con la
5 reivindicación 5, caracterizado porque la capa realzada comprende áreas realzadas formando un patrón de realce sustancialmente distribuido de manera uniforme sobre la capa de material absorbente, dichas áreas realzadas cubriendo 5-15 %, preferentemente 7-13% de la superficie de
10 la capa de material absorbente.

7. El producto de conformidad con la reivindicación 6, caracterizado porque el material absorbente tiene una densidad en las áreas realzadas, que es 0.28 - 0.62 g/cm³.

15 8. El producto de conformidad con cualquiera de las reivindicaciones 1 a 7, caracterizado porque el cuerpo absorbente tiene una longitud L3, y las líneas plegables se extienden a lo largo de 10-50% de la longitud L3 del cuerpo absorbente.

20 9. El producto de conformidad con cualquiera de las reivindicaciones 1 a 8, caracterizado porque las líneas plegables son líneas realzadas, en las cuales el material absorbente se comprime a un grosor inferior que un grosor total de la capa de material absorbente.

25 10. El producto de conformidad con la

reivindicación 9, caracterizado porque la densidad en el área de las líneas plegables es igual a o más alta que la densidad en las áreas realzadas del patrón de realce.

11. El producto de conformidad con cualquiera de
5 las reivindicaciones 1 a 8, caracterizado porque las líneas plegables son cortes o aberturas longitudinales en la capa de material absorbente, teniendo un ancho en la dirección transversal de 0-7 mm.

12. El producto de conformidad con cualquiera de
10 las reivindicaciones 1 a 11, caracterizado porque el elástico para pierna comprende dos o más filamentos elásticos instalados en paralelo longitudinalmente adyacentes a los bordes de la porción de entrepierna intermedia del miembro absorbente.

13. El producto de conformidad con la
15 reivindicación 12, caracterizado porque el miembro absorbente comprende una pieza de cubierta de borde en la porción de entrepierna intermedia, dicha pieza de cubierta de borde estando en la forma de una pieza separada de
20 material de hoja, que se une al lado de la prenda de la hoja posterior a lo largo de una línea de unión, y envuelta alrededor de los bordes longitudinales de la hoja posterior y hoja superior, y unida al lado que da al cuerpo de la hoja superior dentro de los filamentos elásticos.

14. El producto de conformidad con la
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reivindicación 13, caracterizado porque la pieza de cubierta de borde se envuelve herméticamente alrededor de los bordes longitudinales de la hoja posterior y hoja superior en tal manera que sustancialmente no está presente material de hoja excesivo fuera del filamento elástico más exterior.

15. El producto de conformidad con la reivindicación 13 o 14, caracterizado porque dicha pieza de cubierta de borde se extiende más adentro de la línea de unión en la hoja superior, mediante lo cual las barreras contra derrame laterales se forman íntegramente con la pieza de cubierta de borde.