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(71) Applicant: **Bernacchi, Andrea**
55010 Capannori (LU) (IT)

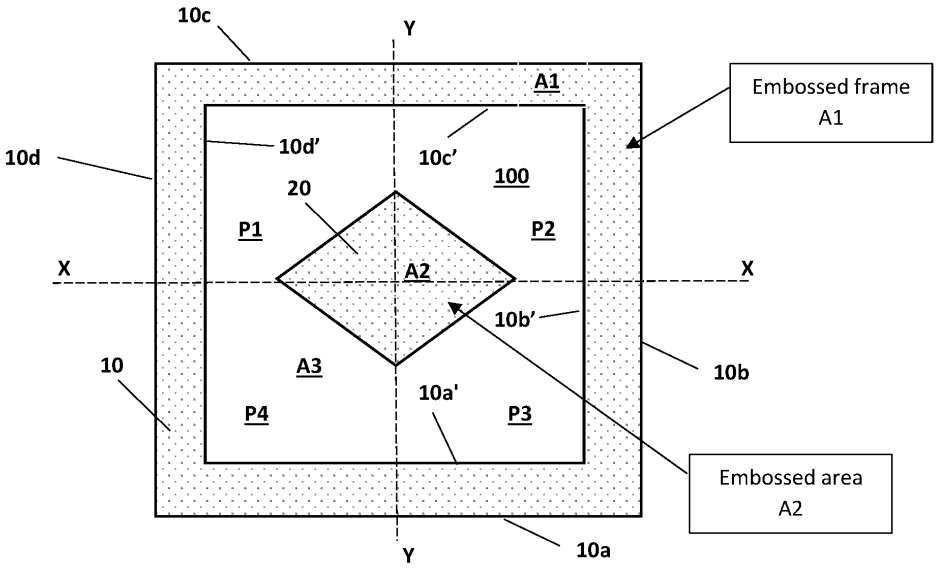
(72) Inventor: **Bernacchi, Andrea**
55010 Capannori (LU) (IT)

(74) Representative: **Emmi, Mario**
Studio Brevetti Turini Srl
Viale Matteotti, 25
50121 Firenze (FI) (IT)

(54) EMBOSSED AND FOLDED NAPKIN AND METHOD FOR PRODUCING THE SAME

(57) The present invention relates to a napkin formed by a suitably folded sheet, the sheet comprising at least one ply and wherein the ply comprises:
- A perimeter area which comprises the whole perimeter of the ply;
- An isolated area and distant from said perimeter area;
- A separation area which separates the perimeter area from the isolated area;
- And wherein in said perimeter area a first embossing (10) is imprinted comprising a plurality of imprints on the ply with the geometry of the imprints all equal to each other **characterized by the fact that** a second embossing (20) is comprised in said isolated area and distant from the perimeter area, said second embossing comprising a plurality of imprints (20) with geometry all equal to each other and further with equal geometry to the ones of the first embossing.

FIG. 3



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Description

Scope of the invention

[0001] The present invention relates to the technical field of sheet products of the *"tissue"* sector, in particular the sector of napkins.

[0002] More particularly, the invention relates to an innovative glued and embossed napkin with two or more plies.

Brief outlines of known art

[0003] Napkins have been known for a long time. They are paper products often used at the table and accompany us in our meals.

[0004] The paper napkin (or similar materials such as woven non-woven fabric) is generally placed on the table to support cutlery. During the meal the user uses it to clean him-/herself of food residues.

[0005] Other uses, still with the purpose of cleaning, are performed through napkins such as cleaning of surfaces.

[0006] Many brands of napkins are sold on the market.

[0007] The napkin is generally a product which may be single-ply or with two or more plies overlapping each other. The sheet, when it has been opened, has a generally square or rectangular conformation and it is folded over itself. Many sizes and different types of folding exist.

[0008] A non-limiting example provides the traditional domestic napkin folded according to two folding lines orthogonal to each other. Therefore, it is folded a first time along a first folding line which runs along the center line in such a way that the two halves of the sheet are overlapping each other to then fold a second time along a second center line which divides the previously folded part into two halves.

[0009] The final shape of the napkin is generally squared but it could also be rectangular and, if required, also with other shapes.

[0010] Having said that, in the event of napkins of the type with two or more plies, they generally have an embossing obtained through rollers with a distribution of tips on their outer surface.

[0011] As well known, the roller has a multitude of tips of predetermined height which, all or part of them, may reproduce a figure.

[0012] The single ply or the two or more plies overlapping each other may pass between this embossing roller (generally made of steel) and a counter-roller coated with rubber in order to imprint the ply/plies.

[0013] Embossing is necessary to create a decoration and to confer a certain thickness to the sheet. In the event of two or more plies, the same embossing actually allows or facilitates joining of the plies together.

[0014] Therefore, the outline of figure 1 of known art shows an open sheet intended to form the napkin after folding. Embossing is generally made along a perimeter area A1 of the two or more overlapped plies, so as to obtain a sheet to be folded for forming the napkin which has this perimeter drawing.

[0015] In particular, considering the four perimeter sides of the sheet, the embossing extends towards the inside of the sheet for a certain distance so as to create an embossing frame, as indicated in figure 1 with the area which has small points representing the embossing.

[0016] In particular, figure 1 of known art shows the embossing area A1 which generally concerns a perimeter area of the sheet area and highlights the two axes X-X and Y-Y along which the folding is performed.

[0017] A first folding is performed around the axis Y-Y by folding and overlapping the two halves with each other, to then fold a second time around the axis X-X.

[0018] The finished product is the napkin 100 shown in figure 2 in which the embossing is present on two sides thereof.

[0019] As mentioned, embossing is a set of imprints generated in the sheet through an embossing roller equipped with a distribution of micro-tips on its surface which generally reproduce a drawing as a whole and which deforms the sheet generating these bucklings without piercing it.

[0020] However, this type of solution, well known and sold for a long time, has a series of technical inconveniences.

[0021] Embossing creates a thickening area which is different from the thickness of the non-embossed areas. In fact, as mentioned, embossing entails a sort of crushing of the one or more overlapping sheets (and anyway also of the single embossed ply) through an embossing roller and a counter-roller and with an embossing roller equipped with said micro-tips distributed to form a drawing. Therefore, locally, the sheet is deformed by the imprint left by the tip, so much so that this action even determines joining of the plies together, in the event that the napkin under processing has more plies.

[0022] Therefore, the overall thickening of the embossed area is generally greater than the part of non-embossed surface given that there is a multitude of "micro-bucklings" in the embossed area. Therefore, if one imagines sectioning the napkin 100, of figure 2, along the axis of section A-A, an embossed segment will be visible with an absolutely uneven surface (upper and lower) and therefore thickened with respect to the remaining non-embossed surface.

[0023] Therefore, when a pile of napkins is realized, the resulting pile would not be perfectly standing in a vertical way with respect to the support plane but, on the contrary, each napkin would tend to be sloped, given that a part of the napkin rests on the thickened area and the other part on the non-embossed area and therefore lowered and thinner. An inclination of the surface results therefrom.

[0024] In particular, just because of this unevenness of the surface, the pile under formation has the tendency to slant as the height increases and this generates difficulty in maintaining a balance of the pile, both in the packaging

step and in the use step if the pile is extracted from the packaging.

[0025] Last but not least, in the event of one or more plies with embossing, the only embossing is not able to keep the plies firmly together.

Summary of the invention

[0026] Therefore, the need for a technical solution which may overcome and/or at least reduce limitations of the known art described above is felt.

[0027] In particular, the aim of the present invention is to provide an embossing solution of the napkin which allows stacking napkins together in such a way that the formed pile is maintained orthogonally to the support plane, without being subjected to unwanted inclinations.

[0028] More particularly, the aim of the present invention is to provide a solution in which embossing does not cause an inclination of each sheet when it is overlapping a previous sheet or a support plane, thereby maintaining the pile perfectly standing vertically.

[0029] Another aim of the present invention is to provide a solution in which, in the event of more plies forming the single napkin, they are firmly maintained together with an optimal tactile quality of the product.

[0030] Therefore, these and other aims are achieved with the present napkin according to claim 1.

[0031] The napkin is formed by a sheet.

[0032] Advantageously, the napkin may be formed for example by a single ply or by one or more plies.

[0033] The sheet, in its turn, may be preferably folded for example into two or more parts.

[0034] Therefore, the sheet comprises at least one ply and wherein the ply comprises:

- A perimeter area (A1) which comprises the whole perimeter of the ply;
- A distal area (A2) separated from said perimeter area;
- A separation area (A3) which separates the perimeter area (A1) from the distal area (A2);
- And wherein in said perimeter area a first embossing (10) is imprinted comprising a plurality of punctiform imprints (10) imprinted and distributed on the ply in said relative perimeter area and each punctiform imprint having a predetermined height (h1) and width (L1);

[0035] According to the invention, a second embossing (20) is comprised in said distal area.

[0036] Advantageously, in this way, when the sheet is folded to form the napkin, an embossed perimeter area and an area opposite to it will be in the sheet and the latter embossed and separated from the separation area as well.

[0037] According to one aspect of the invention, said second embossing (20) comprises a plurality of punctiform imprints (20) imprinted and distributed on the ply in the relative distal area (A2) and each punctiform imprint having a predetermined height (h1) and width (L1)

[0038] In addition, according to the invention, at least the height (h1) of said punctiform imprints (20) relative to said second embossing (20) are equal to the height (h1) of the imprints relative to said first embossing (10).

[0039] In this way, the preset purposes are achieved, given that, now, there is actually an equal embossing, at least in terms of height, both in the perimeter area of the napkin and in a further area opposite to the perimeter one.

[0040] This causes the sheet, when it rests on the ground or on a plane, to be substantially resting on two opposite embossed areas with the same embossing and therefore resulting in a sheet well laid horizontally with respect to a plane, given that it rests on two embossings opposite each other (for example to the two ends of the sheet) and with height equal to each other.

[0041] In this way, when a pile is generated, this maintains perpendicularity with respect to the plane.

[0042] Advantageously, the punctiform imprints relative to the first embossing 10 are all equal to each other in height and width.

[0043] Advantageously, the punctiform imprints relative to the second embossing 20 are all equal to each other in height and width.

[0044] Advantageously, the punctiform imprints constituting the first embossing (10) are geometrically identical (same height and width) to the punctiform imprints of the second embossing (20).

[0045] Advantageously, said distal area may be positioned in a central area of the ply or near a central area of the ply.

[0046] Therefore, in this way, when the sheet is folded into four parts to form the napkin, there will be two consecutive perimeter sides with the first embossing and an area opposite these two consecutive sides (a distal area) which has said second embossing equal at least in height to the first embossing.

[0047] The separation area may be without embossing.

[0048] However, advantageously, in said separation area comprised between said two separated areas of embossing (10, 20), a third embossing (30) may be present comprising a plurality of punctiform imprints distributed on the ply with height (h2) and width (L2) of the imprints all equal to each other.

[0049] In this way, as a whole, the napkin acquires thickness and is better to touch.

[0050] According to an advantageous aspect of the invention, said imprints relative to the third embossing have a height (h2) and/or a width (L2) lower than the ones relative to the first (10) and second embossing (20).

[0051] As clarified below, this allows the use of glue in the event of two plies to be able to be distributed only on the tips of the higher embossing (first embossing and second embossing), thereby obtaining a glued product (therefore very resistant) with a very low amount of glue.

[0052] Advantageously, therefore, the height (h1) of the imprints of the first embossing (10) and second embossing (20) is greater than the height (h2) of the imprints relative to the third embossing (30).

[0053] Advantageously, the width (L1) of the imprints of the first embossing (10) and second embossing (20) is greater than the width (L2) of the imprints relative to the third embossing (30).

[0054] With reference to the drawings, width means the size of the width in the apical area (apex) of the imprint and therefore the apical area of the tip of the embossing tool which imprints paper. This tip may be as a truncated cone in such a way as to better imprint the sheet. Thus, with conformation of a truncated cone, obviously this apical size is lower (in diameter) than the base with the shape of a truncated cone, as one may infer from the attached figures. However, a cylindrical shape is not excluded.

[0055] Advantageously, the height (h1) of the imprints of the first (10) and second embossing (20) is comprised in a range between 0,55 (mm) and 0,85 (mm) extremes included (mm=millimeters) .

[0056] These values proved to be optimal values to the applicant for achieving the purposes.

[0057] Further preferred values of height (h1) are the ones comprised between 0,6 (mm) and 0,8 (mm) extremes included.

[0058] Advantageously, the width (L1) of the imprints of the first (10) and second embossing (20) may be comprised in a range between 0.6 (mm) and 0.8 (mm) extremes included.

[0059] Advantageously, the width (L2) and/or the height (h2) of the tip imprinted onto the sheet relative to the third embossing is narrower and/or more lowered than the one of the first and second embossing in the order of a range between 30% and 40% of size reduction.

[0060] Therefore, considering a preferred value of height (h1) and/or width (L1), the relative values of height (h2) and/or width (L2) are reduced in a range between 30% and 40% extremes included.

[0061] For example, a value of height (h2) may be in a range between 0,25 (mm) and 0,55 (mm), preferably between 0,3 (mm) and 0,5 (mm).

[0062] The width (L2) may be in a range between 0,3 (mm) and 0,5 (mm) .

[0063] Advantageously, the sheet which will form the napkin may be formed by at least two overlapping plies glued to each other.

[0064] Advantageously, in the event of two plies, a ply is uniformly embossed with said third embossing (30) in accordance with one or more of the previous features indicated above and it is connected by means of glue with a ply which comprises the embossings (10) and (20) in accordance with one or more of the features indicated above.

[0065] In this way, there is a double ply glued and embossed.

[0066] Advantageously, the glue, according to this solution, may be present on the tips of the imprints relative to said first (10) and second embossing (20), that is the highest embossings.

[0067] In this way, the glue is present only on a portion of the two plies, thus resulting in a product less soaked in glue, therefore softer and anyway firmly connected.

[0068] The object of the present invention is also a method for producing a napkin folded into two or more parts according to one or more of the previous features indicated above and with said method comprising the following steps:

- Feeding at least a continuous tape which is imprinted through a first embossing roller (300) which generates along the width of the sheet at least the first and the second embossing (10, 20) in accordance with one or more of the previous features;
- Folding the tape and forming single napkins.

[0069] Advantageously, the steps of folding and forming of single napkins may occur through any temporal order between them, for example as a function of the known technology for producing napkins.

[0070] Advantageously, before the step of folding the tape and forming single napkins, an embossing step of a second tape is comprised which is embossed through a suitable second embossing roller which imprints the tape with the third embossing (30) in accordance with one or more of the previous features indicated and subsequent gluing of said second tape with the first tape.

[0071] Advantageously, the gluing occurs by distributing glue onto the tips of the first and second embossing.

Brief description of the drawings

[0072] Further features and advantages of the present napkin according to the invention will become more apparent from the following description of preferred embodiments thereof, given only by way of non-exhaustive example, with reference to the attached drawings, wherein:

- Figure 1 and figure 2 show a solution of napkin according to the known art;
- Figures from 3 to 6 outline a possible solution according to the invention;
- Figure 7 outlines an embossing roller 300 according to the proposed solution;
- Figure 8 shows a magnification of a portion of the embossing roller 300 while figure 9 shows an enlarged detail Y thereof to highlight two tips relative to the area A1 and the area A3;
- Figure 10 shows the two tips in section, that is the one relative to the area A1 (or A2 equally) and to the area A3 to show its geometrical differences;
- Figure 11 defines these geometrical dimensions and indicates some preferred ranges.

Description of some preferred embodiments

[0073] The object of the invention is a napkin in which the embossing is such that each napkin, when it overlaps a further napkin for forming the pile, maintains a perfectly horizontal or substantially horizontal configuration.

[0074] In particular, by considering resting a napkin on a horizontal support plane (for example, the surface of a table), the embossing will be such that the napkin is substantially parallel to the support plane and therefore, in this case, horizontal. The same occurs for the other subsequent napkins of the pile in which each napkin has a horizontal arrangement by resting on the underlying napkin.

[0075] This solution is obtained in accordance with the indications of figures 3 and 4, by way of example.

[0076] In accordance with figure 3, therefore, the sheet (for example with single ply or with one or more plies) is shown in the open configuration.

[0077] According to the invention, the embossing is now made not only on the perimeter strip (A1) but also on a certain inner area (A2) of the sheet and which is therefore inside the area delimited by this perimeter strip (A1). Preferably this area is a central area.

[0078] In particular, the open sheet shown in figure 3 (with single ply or with two or more plies as mentioned), has the perimeter sides (also called edges or perimeter edges) (10a, 10b, 10c, 10d). Starting from these perimeter edges, therefore, there is a first area (A1) having a first embossing 10 which concerns, as already mentioned in the known art, an extension embossing frame (A1), as indeed indicated in figure 3.

[0079] The sides (10a', 10b', 10c', 10d') are parallel to the previous ones to form this embossed frame indicated in figure 3 and thus having a certain extension area (A1).

[0080] A further second embossing 20 is present in a central or substantially central area (A2) of the sheet of figure 3. This second embossing 20 is preferably symmetrical with respect to at least one of the two axes X-X and Y-Y, preferably symmetrical with respect to both axes defined in figure 3, that is the axes X-X and Y-Y.

[0081] The reported drawing may be any and the rhomboidal conformation of figure 3 is just an example.

[0082] In this way, when the sheet is folded to form the napkin as indicated in figure 4, an embossing (10, 20) is present for each panel generated by the folding.

[0083] Substantially, figure 3 shows with numbers (p1,..p4) the four panels which are generated after folding and which are overlapping each other to form the napkin.

[0084] On each of these panels there is a segment of perimeter embossing (first embossing 10) and a segment of central embossing (second embossing 20) which will perfectly overlap each other, when the sheet will be folded as per figure 4.

[0085] If the central embossing 20 is equal to the perimeter embossing 10 (in size terms of the single embossing tip, for example depth), because of the symmetry of said embossings 10 and 20, a rectangular or squared napkin is generated in which the perimeter embossing 10' is present for two of its consecutive sides at right angle (see figure 4). In the same way, an embossing 20' with the same geometry of the tips will also be present on an opposite angular area (see figure 4). Equal embossing means the size of the tips since the area (A2) may in fact show a drawing completely different from the one present in the area (A1).

[0086] Therefore, it is clear that now the angular area having the embossing 20' well compensates for the presence of the perimeter embossing 10' (see figure 4).

[0087] Therefore, imagining that one arranges now the napkin on a horizontal support plane, it is immediately evident that thanks to the embossing 20' arranged in an angular area opposite the arrangement of the embossing area 10', the napkin now rests in a perfectly horizontal way given that just this embossing 20' "raises" the napkin on a side thereby levelling it with respect to the perimeter embossing 10' .

[0088] To do that, obviously, the embossing 20' must be equal in size with respect to the one 10' (depth of the imprinting given by the tip and/or width).

[0089] The result is that the pile of sheets will be perfectly standing in an orthogonal way with respect to the support plane.

[0090] The indications above may apply for a single-ply napkin or, as better clarified immediately below, for a napkin with two or more plies.

[0091] Meanwhile, it is disclosed here beforehand that, with reference to figure 3 or 4, for example, the area (A3) comprised between the first embossing 10 and the second embossing 20 may be a non-embossed area as well as, preferably, a fully embossed area but with an embossing (third embossing 30) generated by tips of height lower than the height of the tips that generated said embossings 10 and 20.

[0092] An example is shown in figure 5.

[0093] The figure shows the two areas (A1, A2) with a deep embossing (first and second embossing), as already described, and the further area A3 having a third embossing 30 generated with less high tips and, possibly, also with consistency and/or drawing different from the first embossing.

[0094] In this way, the whole sheet is actually embossed but with two different types of embossing, that is the deeper embossing (first embossing 10 and second embossing 20) (which concerns the peripheral area and the central area) and the lighter embossing 30 (third embossing 30) which concerns the remaining area.

[0095] In this way, the sheet has a certain thickening and roughness to touch and optimizes its function of absorption and cleaning.

[0096] Therefore, by describing the invention in greater detail, the preferred configuration of the invention provides the areas (A1, A2) thus having a first embossing and a second embossing (10, 20) made with the tips higher than any third embossing 30 present in the area A3. Therefore, in the areas (A1, A2) a decorative

embossing is made deeper than the embossing 30.

[0097] Still according to the invention, without prejudice to the indications above, the product is preferably with two or more plies and it is glued with a glue which is distributed only and exclusively on the tips of deeper embossing, that is the embossing (10, 20).

[0098] In this way, thanks to the gluing actually present in the areas A1 and A2 and which concerns a minimum amount of glue distributed only on the tips of the embossing, one achieves realizing an extremely stable product and better to touch.

[0099] Therefore, according to the preferred configuration of the invention, the product is made with two overlapping plies.

[0100] As shown in figure 6, there is a first ply 100 having the third embossing 30 already described previously. This first ply 100 is therefore uniformly embossed for all its length with this third embossing 30 less deep than the already described first and second embossing (10, 20).

[0101] The second ply 200 has instead in correspondence of the area (A1, A2) (therefore perimeter and central area) the first embossing and second embossing already described and for the remaining area (A3) the third embossing 30 which is preferably identical to the one of the first ply 100.

[0102] The second ply overlaps the first ply and joining is facilitated by distribution of the glue which is present exclusively on the tips of the first and second embossing (10, 20) (that is the perimeter area A1 and the central one A2). Therefore, in the production process, as better clarified below, one distributes the glue on the tips of the embossing 10 and 20 of the ply 200 leaving the area concerned by the embossing 30 devoid of glue. Then one proceeds to couple the two plies which will remain firmly joined to each other thanks to the glue distributed on the embossing areas (10, 20).

[0103] Therefore, the result is a double ply like the one of figure 5 and constituted by overlapping the ply 100 uniformly embossed with the embossing 30 and the ply 200 having the embossings (10, 2) and the embossing 30.

[0104] Therefore, figure 7 shows an example of embossing roller 300 (for example drawings and/or sizes may vary) according to the invention to obtain the described product. The roller 300 is developed according to a longitudinal axis of rotation and, as well known, it is generally made of steel.

[0105] In this case, there are the three areas with embossing (10, 20, 30) which are repeated cyclically along the longitudinal length of the roller in order to imprint a sheet under processing whose width corresponds or is similar to the one of the roller. Then as well known in the production process of napkins, the sheet will be processed (therefore cut to form more tracks and then folded) to generate the piles of napkins.

[0106] The first and second embossing 10 and 20 are the same in terms of height of the tip responsible for the embossing, even if then the pattern of the drawing in the central area A2 is in this case different from the one of the area A1 (the area A2 represents a star in this exemplifying case).

[0107] The area A3 has the third lower embossing 30, that is the height of the tips is lower.

[0108] The section A-A of figure 10 (sectioned segment highlighted with a circle in figure 9) shows indeed the difference of height between the tips (10', 20') which generate the embossing 10 and 20 and the tips (30') which generate the remaining embossing 30.

[0109] The sizes of the tip 10' (which indeed corresponds to the described embossings relative to the areas A1 and A2), may have a range of height (h1) comprised between 0.55 mm and 0,85 mm, preferably between 0.6 mm and 0.8 mm extremes included in all the aforesaid cases.

[0110] The width (L1) may be in a range between 0.6 mm and 0.8 mm extremes included.

[0111] The tip (30') relative to the area A3 is instead lower and narrower than the one relative to the generation of the tips (10, 20), as indeed shown in figure 10 or 11.

[0112] Preferably the height of the tip relative to the area A3 may be reduced with respect to the height indicated for the area A1 or A2 in a range of approximately 30%-40% of reduction in height. For example, the tip 30' relative to the area A3 may be lowered by a value of approximately 0,3 mm with respect to the height of the area 10 and 20.

[0113] The same is for the width (L2) .

[0114] The aforesaid ranges, after experimental tests carried out by the applicant, proved to be optimal values for reaching the preset purposes.

[0115] Therefore, in accordance with the production process, referring for example to the preferred configuration with two glued plies, one proceeds to embossing the two plies through the suitable embossing rollers.

[0116] A tape which will constitute the ply 100 of figure 6 will pass between an embossing roller and a roller coated with rubber to undergo the embossing operation. In this case, the embossing roller will be a roller with uniform tips, without any drawing, whose height and geometry of the tips corresponds to the ones of the area A3 relative to the roller 300 of figure 7.

[0117] On the contrary, the second ply passes between the embossing roller 300 of figure 7 and the relative roller coated with rubber in order to emboss the ply as indicated in the details of figure 8 or, equivalently, by way of example, as indicated in figure 6 with reference to the ply 200 (obviously in this case the area having the embossing 20 has a different geometry represented only as an example) . In any case, the second ply will have the same embossing of the ones present on the roller 7 therefore with the different embossed areas A1, A2, and A3 and in accordance with the geometries introduced above.

[0118] At this point, the two plies must be joined and, in this case and in an innovative way, a gluing process is used.

[0119] The ply embossed with the roller of figure 7 is passed along a path in such a way that it skims a roller with a glue on its surface which collects from a feeding tank. The tape constituting the embossed ply skims the gluing roller at such a distance that only the tips of the highest embossing imprinted on the paper (that is the embossings 10 and 20) take the glue. The difference in height between the tips of the area A1 and A2 and the ones relative to the area A3 allow this selection.

[0120] Then one proceeds to couple the two plies which remain firmly joined thanks to the glue which bonds in the area A1 and A2 with the tips of the embossing 30 relative to the underlying ply.

[0121] In accordance with this technique, the production of even more than two plies is not excluded.

[0122] The advantage of a glued product is that, obviously, they do not detach easily.

[0123] In addition, there is no air between the two plies in the gluing area and, in addition, a tactile advantage is obtained with a product much closer to the sensation of touching fabric given that the glued sheets are much more packed to each other.

Claims

1. A napkin formed by a folded sheet, the sheet comprising at least one ply and wherein the ply comprises:

- A perimeter area (A1) which comprises the whole perimeter of the ply;
- A distal area (A2) separated from said perimeter area;
- A separation area (A3) which separates the perimeter area (10) from the distal area (20);
- And wherein in said perimeter area a first embossing (10) is imprinted comprising a plurality of punctiform imprints (10) imprinted and distributed on the ply and each punctiform imprint having a predetermined height (h1) and width (L1);
- **Characterized by the fact that** a second embossing (20) is comprised in said distal area, said second embossing comprising a plurality of punctiform imprints (20) imprinted and distributed on the ply and each punctiform imprint having a predetermined height (h1) and width (L1) and with at least the height (h1) of said punctiform imprints (20) relative to said second embossing (20) which are equal to the height (h1) of the imprints relative to said first embossing (10) .

2. The napkin, according to claim 1, wherein said distal area is positioned in a central area of the ply or near a central area of the ply.

3. The napkin, according to claim 1 or 2, wherein in said separation area (A3) a third embossing (30) is present comprising a plurality of punctiform imprints distributed on the ply, said imprints relative to the third embossing having a height (h2) and/or a width (L2) lower than the ones relative to the first (10) and second embossing (20); preferably the punctiform imprints of said third embossing (30) are all equal to each other in height (h2) and width (L2).

4. The napkin, according to one or more of the previous claims, wherein the height (h1) of the imprints of the first (10) and second embossing (20) is greater than the height (h2) of the imprints relative to the third embossing (30).

5. The napkin, according to one or more of the previous claims, wherein the width (L1) of the imprints of the first (10) and second embossing (20) is greater than the width (L2) of the imprints relative to the third embossing (30).

6. The napkin, according to one or more of the previous claims, wherein the height (h1) of the imprints of the first (10) and second embossing (20) is comprised in a range between 0,55 (mm) and 0,85 (mm) extremes included, preferably between 0,6 (mm) and 0,8 (mm) extremes included.

7. The napkin, according to one or more of the previous claims, wherein the width (L1) of the imprints of the first (10) and second embossing (20) is comprised in a range between 0,6 mm and 0,8 mm extremes included.

8. The napkin, according to one or more of the previous claims, wherein the width (L2) and/or the height (h2) of the tip imprinted onto the sheet relative to the third embossing is narrower and/or more lowered than the one of the first and second embossing in a range between 30% and 40% of size reduction.

9. The napkin, according to one or more of the previous claims, wherein the sheet is formed by at least two overlapping plies glued to each other.

10. The napkin, according to claim 9, wherein in the event of two plies, a ply is uniformly embossed with said third embossing (30) in accordance with one or more of the previous claims from 3 to 8 and it is connected by means of glue with a ply in accordance with one or more of the previous claims from 1 to 8.

11. The napkin, according to one or more of the previous claims, wherein the glue is present on the tips of the imprints relative to said first and second embossing.

12. The napkin, according to one or more of the previous

claims, wherein the punctiform imprints relative to the first embossing are all equal to each other in length and width and the punctiform imprints relative to the second embossing are all equal to each other in height and width.

13. A method for producing a napkin folded into two or more parts according to one or more of the previous claims from 1 to 12 comprising the following steps:

- Feeding at least one first continuous tape which is imprinted through a first embossing roller (300) which generates along the width of the sheet at least said first and second embossing (10, 20) in accordance with one or more of the previous claims from 1 to 12;
- Folding the tape and forming single napkins.

14. The method, according to claim 13, wherein before the folding step of the tape and forming of single napkins, an embossing step of a second tape is comprised which is embossed with a third embossing (30) in accordance with one or more of the previous claims, through specific second embossing roller and subsequent gluing of said second tape with the first tape.

15. The method, according to claim 14, wherein the gluing operation provides a distribution step of glue onto the first tape exclusively embossed on the tips relative to the first and second embossing.

FIG. 1

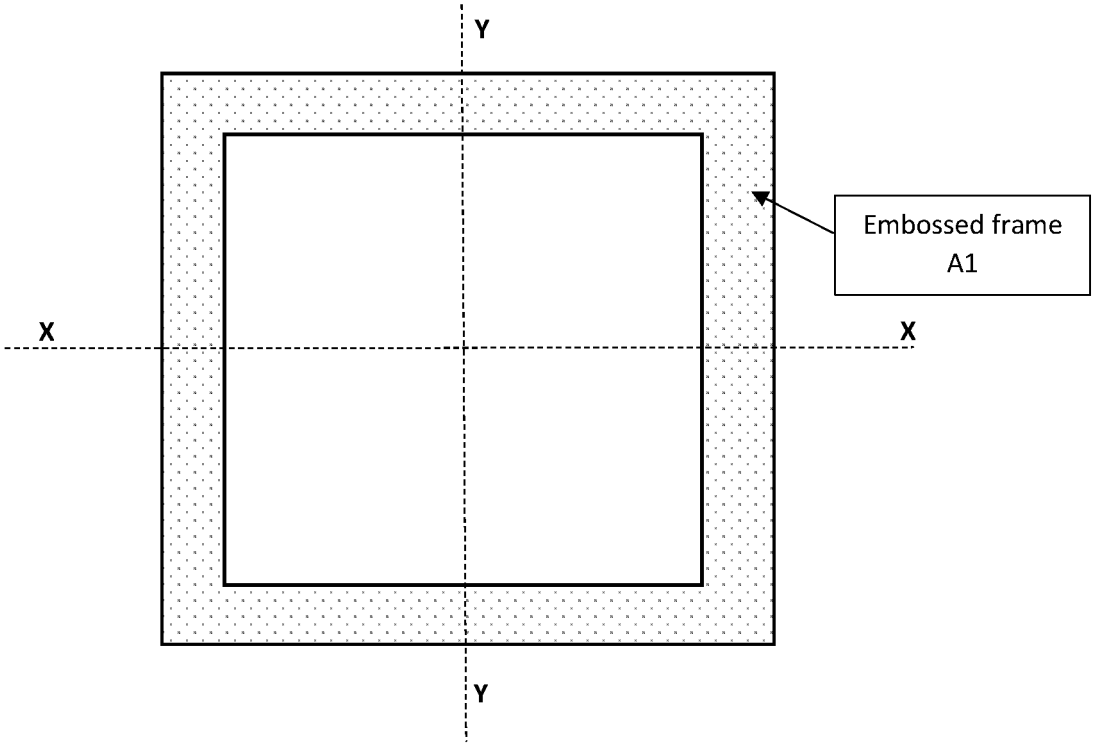


FIG. 2

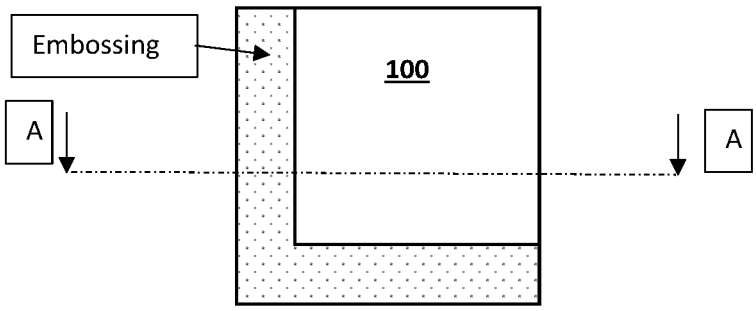


FIG. 3

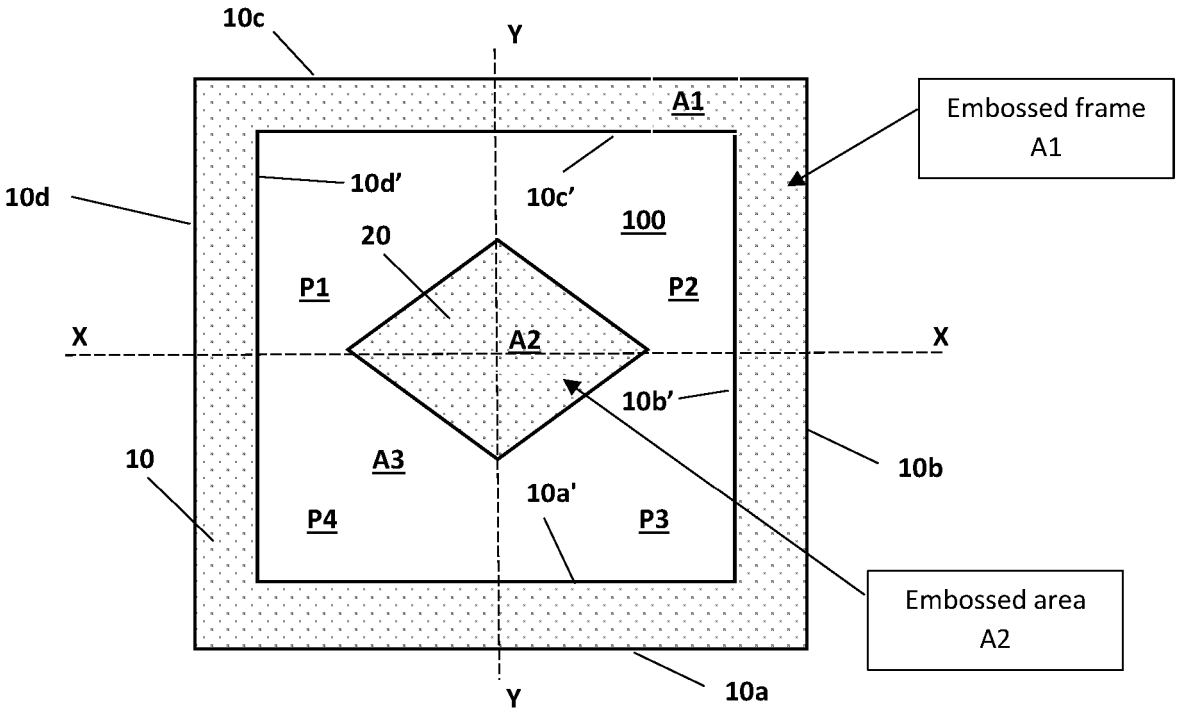

10c
Y
A1
Embossed frame
A1
10d
10d'
10c'
100
20
P1
P2
X
A2
X
10b'
10
A3
10b
10a'
P4
P3
Embossed area
A2
Y
10a

FIG. 4

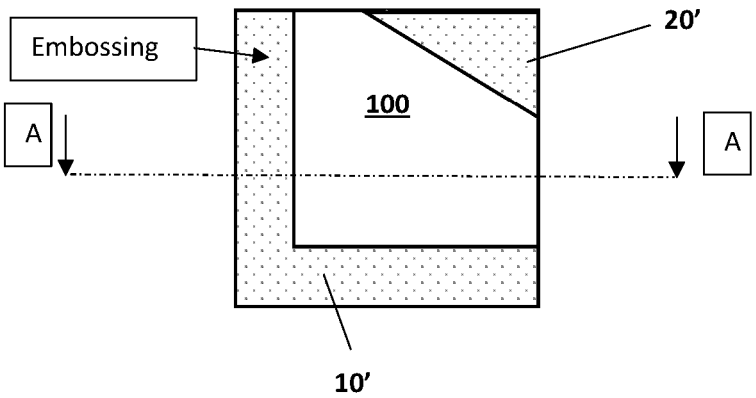

Embossing
20'
100
A
A
10'

FIG. 5

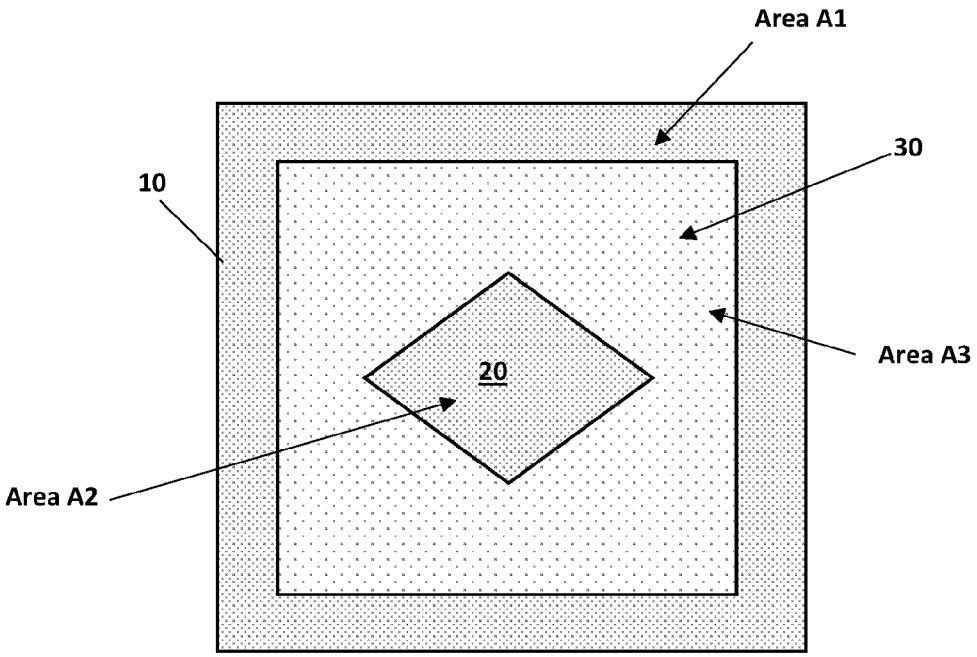


FIG. 6

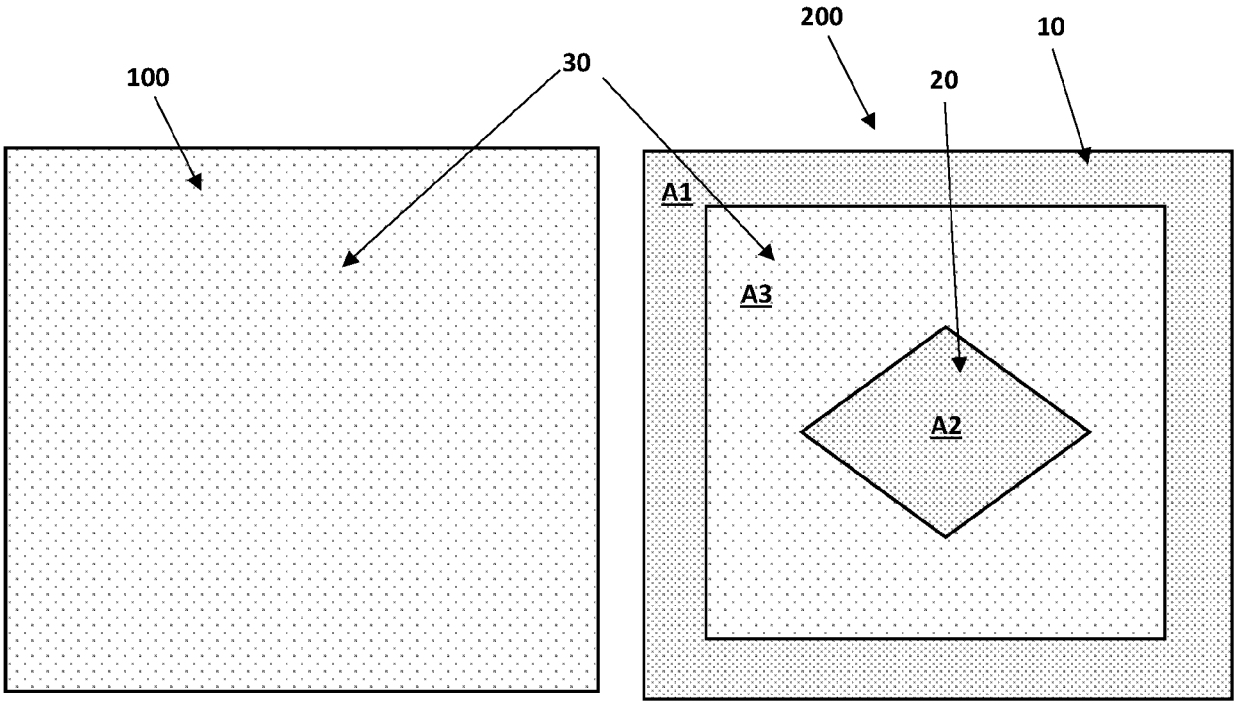


FIG. 7

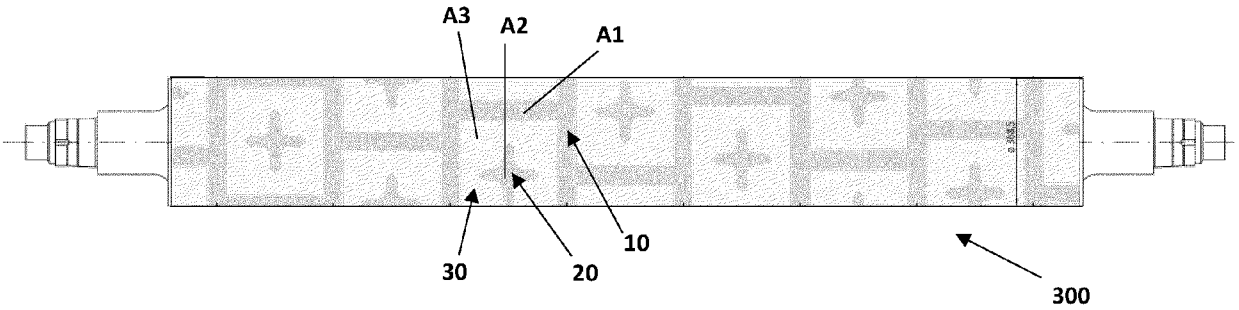


FIG. 8

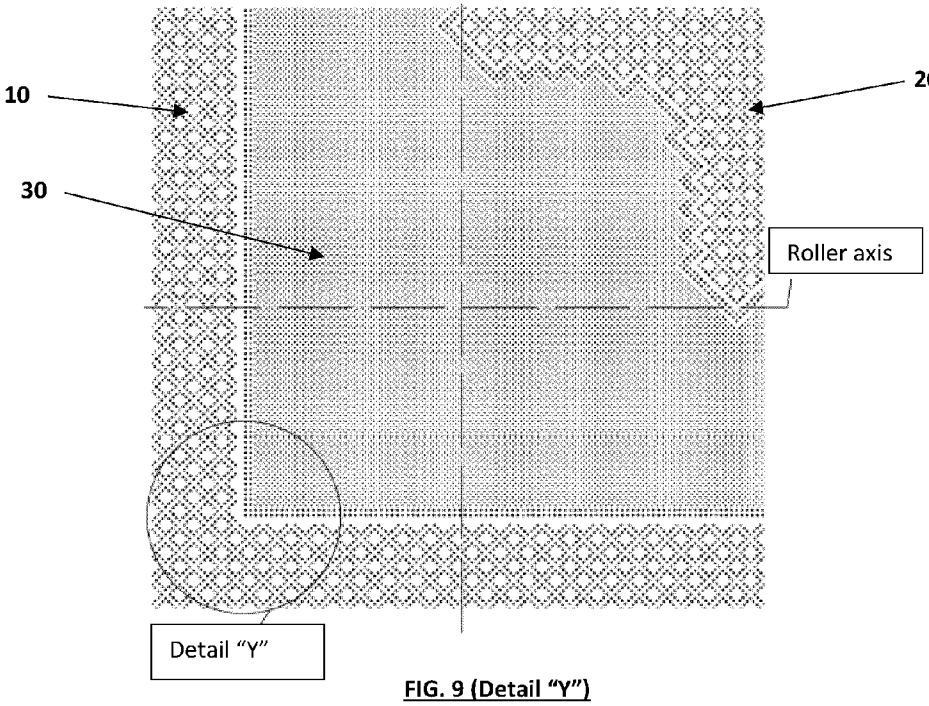


FIG. 9 (Detail "Y")

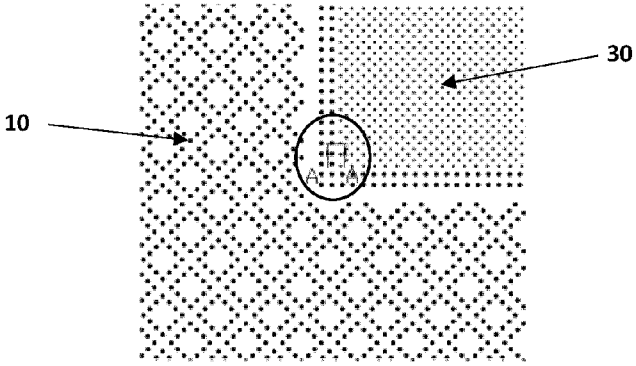


FIG. 10

(Sec. A-A of figure 9)

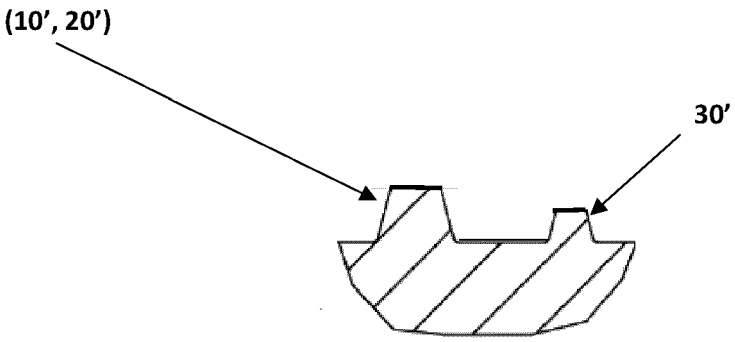
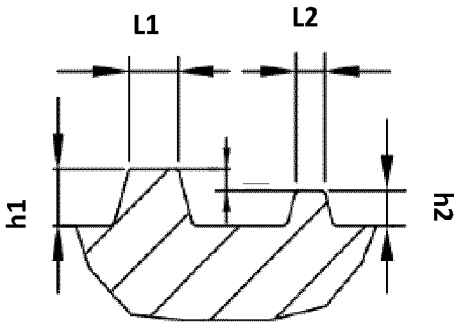


FIG. 11



0.55mm<=**h1**<=0.85mm
0.6 mm<=**L1**<=0.8 mm

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EUROPEAN SEARCH REPORT

Application Number
EP 24 21 1370

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 May 2025	Johne, Olaf

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