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(54) **A package of a flexible plastics material for foodstuff**

Eine Verpackung aus flexiblem Kunststoff für Nahrungsmittel

Un emballage en matière plastique flexible pour aliments

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(73) Proprietor: **BARILLA G. e R. Fratelli S.p.A.**
43100 Parma (IT)

(72) Inventors:
• **Tedeschi, Giancarlo**
43036 Fidenza (Parma) (IT)

• **Galvani, Maurizio**
Localita Scarzara,
43100 Parma (IT)

(74) Representative: **Ferreccio, Rinaldo**
c/o Botti & Ferrari S.r.l.,
Via Locatelli, 5
20124 Milano (IT)

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DescriptionTechnical field

[0001] This invention relates to the field of packaging and in particular to the packaging of food products.

Background of the invention

[0002] Among the different kinds of packages used for food products, those obtained according to the so-called flow-pack technique are have become more and more successful.

[0003] This technique allows to quickly package different products, among which food products, starting from a sheet of a plastics material, which is folded over the product and thermo-welded at its rims so as to form a sort of tubular bag encasing the product.

[0004] The sheet of plastics material generally consists of two films of a thermoplastic material bonded to one other, typically by means of an adhesive. One of these films generally has oriented fibers, whereas the other one has non-oriented fibers.

[0005] Although being quite satisfactory under numerous standpoints, these packages show an inconvenience linked to the opening operation. When the packages are opened by the consumer by pulling in opposite directions the envelope at the thermo-weldings located at one of the ends of the envelope, there often occurs a tearing of the envelope, which is propagated, substantially in the direction of the oriented fibers, up the middle portion of the package and even farther. This jeopardizes the possibility of re-closing the package.

Summary of the invention

[0006] The problem underlying this invention was that of providing a package which might enable a safe opening by the consumer, avoiding the risk of tearing the envelope and thus ensuring the re-closeability of the package.

[0007] Such a problem is solved, according to the invention, by a package of a flexible plastics material for foodstuff, comprising a bag closed at its opposite ends by respective weldings, obtained according to the so-called flow-pack technique from a sheet consisting of a first film of a plastics material with oriented fibers bonded to a second film of a plastics material with non-oriented fibers, characterized in that said first and second films are bonded to one another by means of an adhesive coated over the whole surface of one of them, except in a region in proximity to at least one of said weldings (2), in which region said sheet shows a plurality of zones of bonding discontinuity between said first and second films.

[0008] The weldings are preferably thermo-weldings.

[0009] Preferably, the films are made of a plastics material chosen from polyethylene and, advantageously,

polypropylene.

Brief description of the drawings

[0010] The present invention will be further illustrated with reference to the attached drawings, in which:

Fig. 1 is a perspective view of a package according to the invention;

Fig. 2 is an enlarged view of a section taken along line II-II;

Fig. 3 is a top view of a sheet used in the package according to the invention.

Detailed description of the invention

[0011] With reference to the above figures, a package according to an embodiment of the present invention comprises a tubular bag 1 enclosing a food product, closed at its opposite ends by transversal thermo-weldings 2, 3. The bag 1 is obtained by flow-pack technique from a sheet 4 of a plastics material consisting of two films 4a, 4b, bonded together by means of an adhesive 6.

[0012] One of these two films is of a thermoplastics material with oriented fibers, whereas the other film is of a thermoplastic material with non-oriented fibers.

[0013] These two films 4a and 4b are bonded to one another by means of said adhesive 6, which is coated over the surface of one of them. However, in a region of predetermined width near the thermo-weldings 2 at one of the opposite ends of the bag 1, the two films are bonded to one another by means of an adhesive, preferably the same adhesive 6 mentioned above, which is applied in a dotted pattern. The small circular spots 6 of Fig. 1 schematically represent the above dotted pattern.

[0014] The spaces among the spots coated with the adhesive represent zones 5 of bonding discontinuity between the films.

[0015] The discontinuity zones 5 and the circular spots 6 at which the two films 4a and 4b are bonded to one another are also visible in Fig. 3, which shows a sheet 4 of plastics material used to make the package according to the invention.

[0016] This sheet is produced by a conventional machine for bonding films of plastics material, using a cylinder for laying an adhesive, which has been suitably arranged in order to obtain a so-called "in register" deposition. According to the present invention, by virtue of the in register deposition, the adhesive is laid onto the surface of the film to be bonded in such a way that for certain lengths of the film the whole surface is coated whereas, for other lengths, the adhesive is laid according to a dotted pattern or, in any case, in such a way that the surface of the film is not wholly coated. The sheet obtained by bonding the two films will therefore show lengths in which the two films have a continuous adhesive

layer interposed between one another alternating to lengths in which the two films are only bonded at certain areas.

[0017] The thus obtained sheet, after being wound on to a reel, is used to produce the package according to the invention, by using the conventional apparatus of the flow-pack technique.

[0018] The adhesive for bonding the two films can be chosen among those commonly used in the flow-pack technique and is preferably an adhesive suitable for food packages.

[0019] It has surprisingly been found that, thanks to the presence of these zones of bonding discontinuity, when the package is opened and the envelope is torn by pulling in opposite directions at the thermo-weldings, the tearing stops in the region which is directly adjacent to the thermo-weldings and is not propagated in the direction of the oriented fibers. In such a way, the re-closeability of the package is ensured and this allows the freshness of the food to be preserved for a longer time, while protecting the food from the contact with powder and moisture.

[0020] All of these advantages are achieved in a simple manner, without having to modify the apparatus which are commonly used in the flow-pack packaging technique, by only modifying the step by which the adhesive is laid for bonding the films of plastics material which form the flexible envelope of the package.

Claims

1. A package of a flexible plastics material for foodstuff, comprising a bag (1) closed at its opposite ends by respective weldings (2, 3), obtained according to the so-called flow-pack technique from a sheet (4) consisting of a first film (4a) of a plastics material with oriented fibers bonded to a second film (4b) of a plastics material with non-oriented fibers, **characterized in that** said first (4a) and second (4b) films are bonded to one another by means of an adhesive coated over the whole surface of one of them, except in a region in proximity to at least one of said weldings (2), in which region said sheet (4) shows a plurality of zones (5) of bonding discontinuity between said first (4a) and second (4b) films.
2. A package according to claim 1, wherein said plastics material is polyethylene or polypropylene.
3. A package according to claim 1 or 2, wherein said weldings (2,3) are thermo-weldings.
4. A package according to claim 3, wherein said first (4a) and second (4b) films are bonded in proximity to at least one of said thermo-weldings (2) by application of an adhesive in a dotted pattern (6) so as to give rise to said zones (5) of bonding discontinuity.

Patentansprüche

1. Verpackung aus flexiblem Kunststoffmaterial für Nahrungsmittel, enthaltend einen Beutel (1), der an seinen gegenüberliegenden Enden durch jeweilige Schweißnähte (2, 3) geschlossen ist, erhalten nach der sogenannten Flow-pack-Technik aus einer Folie (4), die aus einem ersten Film (4a) aus Kunststoffmaterial mit orientierten Fasern besteht, die mit einem zweiten Film (4b) aus Kunststoffmaterial mit nicht-orientierten Fasern verklebt ist, **dadurch gekennzeichnet, dass** der erste (4a) und zweite (4b) Film miteinander mittels eines Klebstoffes verklebt sind, der über die ganze Oberfläche eines der Filme, außer in einem Gebiet in Nachbarschaft zu wenigstens einer der Schweißnähte (2), aufgetragen ist, in welchem Gebiet die Folie (4) eine Vielzahl von Zonen (5) von Verklebungs-Discontinuität zwischen der ersten (4a) und der zweiten (4b) Folie aufweist.
2. Verpackung nach Anspruch 1, wobei das Kunststoffmaterial Polyethylen oder Polypropylen ist.
3. Verpackung nach Anspruch 1 oder 2, wobei die Schweißnähte (2, 3) Thermoschweißnähte sind.
4. Verpackung nach Anspruch 3, wobei der erste (4a) und zweite (4b) Film in Nachbarschaft zu wenigstens einer der Thermoschweißnähte (2) durch Anwendung eines Klebstoffes in einem gepunkteten Muster (6) verklebt sind, so dass sie die Zonen (5) von Verklebungs-Discontinuität herbeiführen.

Revendications

1. Un emballage en matière plastique souple pour produit alimentaire, comprenant une poche (1) fermée à ses extrémités opposées par des soudures respectives (2, 3), obtenu par la technique dite *flow-pack* à partir d'une feuille (4) constituée d'un premier film (4a) en matière plastique avec des fibres orientées lié à un second film (4b) en matière plastique avec des fibres non orientées, **caractérisé en ce que** lesdits premier (4a) et second (4b) films sont liés l'un à l'autre au moyen d'un adhésif appliqué sur la totalité de la surface de l'un d'entre eux, à l'exception d'une région située à proximité d'au moins l'une desdites soudures (2), région dans laquelle ladite feuille (4) présente une pluralité de zones (5) de discontinuité de liaison entre lesdits premier (4a) et second (4b) films.
2. Un emballage selon la revendication 1, où ladite matière plastique est le polyéthylène ou le polypropylène.
3. Un emballage selon la revendication 1 ou 2, où les-

dites soudures (2, 3) sont des thermo-soudures.

4. Un emballage selon la revendication 3, où lesdits premier (4a) et second (4b) films sont liés à proximité d'au moins l'une desdites thermo-soudures (2) par application d'un adhésif suivant un motif de points (6) de manière à donner naissance auxdites zones (5) de discontinuité de liaison.

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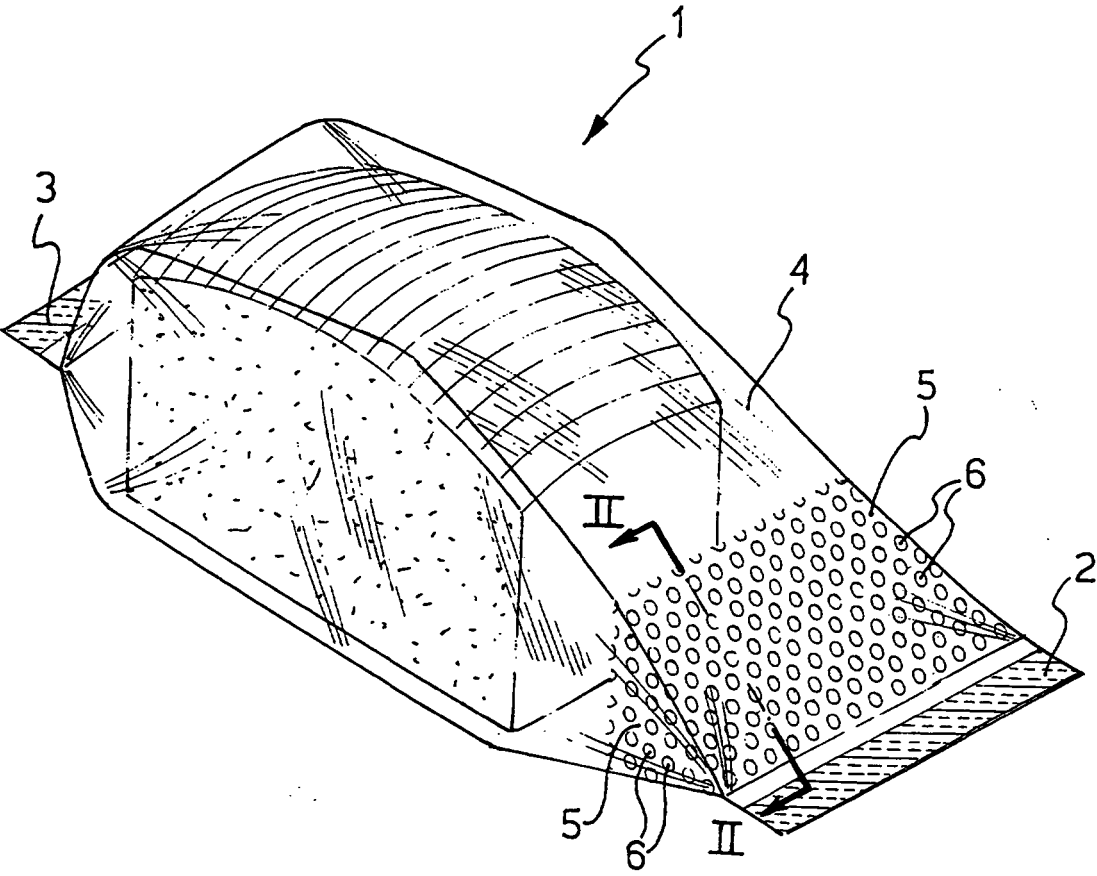


FIG. 1

