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(54) **PACK ASSEMBLY WITH TEAR-OFF PORTION.**

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Description

This invention relates to a bag according to the preamble of claim 1 and a method according to the preamble of claim 15.

Discrete items such as sweets, nuts or particulate material such as tobacco are typically packaged in a bag designed so that access to the contents of the bag is achieved by tearing off a portion of the bag to create an opening for access to the contents. The bag in many cases maybe re-closed to prevent spillage of unused contents which can be accomplished by folding the edge of the opening over on itself and fastening this position with a peg, clip or a piece of sticky tape.

It has been proposed to provide bags with a reinforced strip to guide a tear along a path on a bag so that when a portion of the bag is torn away, a predetermined opening is formed, (see for instance CH-A- 384452 and EP-A- 12275, on which the preambles of claims 1 and 15 are based). Other proposals provide a fastener fixed permanently to a bag which can retain the opened bag in a closed position (See for instance EP-A- 302600 and US-A- 3815810).

It is an object of this invention to provide such a re-closable bag combining in a novel manner a reinforced strip and a fastening means which is both simple and cheap to manufacture while being convenient to use.

According to one aspect of the invention there is provided a bag of sheet material comprising a reinforcing strip for guiding a tear in the bag material along a predetermined path so that the bag can be torn along the path to form an opening in the bag, characterised in that the reinforcing strip is adhesively applied to the surface of the material of the bag and includes an adhesive re-close tab which is detachable therefrom and which may be used to re-close the opening in the bag.

Preferably the re-close tab is formed as a part of the reinforcing strip. The re-close tab maybe a substantially rectangular elongate portion punched from the reinforcing strip and maybe defined by a first longitudinal edge and two shorter edges and a second longitudinal edge, the second longitudinal edge being a portion of an edge of the reinforcing strip, the shorter edges extending from the first longitudinal edge towards but not joining the second longitudinal edge, so that the re-close tab is partially attached to the reinforcing strip and the re-close tab is torn from the reinforcing strip for removal. The adhesive used to apply the reinforcing strip to the surface of the bag maybe sufficiently weak to permit removal of the re-close tab for re-use but sufficiently strong to prevent creep of the tear under the reinforcing strip.

Alternatively the re-close tab may comprise a low tack re-usable adhesive strip of material adhered to the surface of the reinforcing strip. The re-close tab may include a grip portion to be gripped between the user's fingers which can be non-adhesive or can have the adhesive inhibited for the comfort of the user. The reinforcing strip may have a transverse stripe which is devoid of adhesive or over which the adhesive is inhibited and the grip portion of the re-close tab may be positioned in the said stripe. The reinforcing strip may extend from a position on one side of the bag distanced between one third and one half the width of the bag from an edge, around the edge to an opposing position on the other side of the bag. The bag maybe provided with a slit or notch at an edge of the bag adjacent the guiding means, the slit or notch being arranged to assist in the starting of a tear and may be provided with tear position indicator means adjacent the tear guiding means. The reinforcing strip maybe spaced from a sealed end 11 at a distance according to the required size of the opening.

According to another aspect of the invention there is provided a method of forming a re-closeable packaging bag of sheet material comprising forming the bag, applying a reinforcing strip to a part of the bag so that the reinforcing strip can guide a tear in the bag material along a predetermined path and the bag can be torn along the path to form an opening in the bag, characterised in that the reinforcing strip is adhesively applied to the surface of the material of the bag and includes an adhesive re-close tab which is detachable therefrom and which may be used to re-close the opening in the bag.

In order to promote a fuller understanding of the above and other aspects of the invention, embodiments will now be described, by way of example only with reference to the accompanying drawings in which:-

FIGURE 1 shows a first embodiment in part perspective view;
FIGURE 2 shows a part perspective view of a second embodiment;
FIGURE 3 is a part perspective view of a third embodiment; and
FIGURE 3A shows the label of this embodiment;
FIGURE 4 is a part perspective view of a fourth embodiment;
FIGURE 5 shows a portion of a web carrying a series of bag labels of said fourth embodiment;
FIGURE 6 is a schematic rear view of one of the labels of FIGURE 5;
FIGURE 7 is an alternative embodiment of that shown in FIGURES 4 and 5; and
FIGURE 8 is a schematic rear view of one of the labels in Figure 7.

The arrangement shown in Figure 1 comprises an elongate bag 10 of a suitable plastics material (e.g. polypropylene) made on a continuous operation from pre-printed sheet material. Following packaging (in this example chocolate-coated raisins) in which the bag is heat-sealed transversely along opposite end regions 11 and crimped, an adhesive strip 13 is applied to a major surface of the bag in one corner thereof adjacent an end region 11. The strip 13 may be made of a suitable plastics material such as polyvinylchloride or polypropylene but use may be made of paper. The adhesive strip preferably wraps around one edge of the bag and extends around both sides of the bag to a distance of one third to one half of the width of the bag.

Adjacent the adhesive strip 13 there is provided a printed tear position indicator mark 14 at which position the user may tear the bag down the line of the crimping as shown. To assist in the commencement of the tear a tear propagating slit 15 or notch is provided in the edge of the end region which may be emphasised by the printed indicator mark such as an arrow 14 or a verbal instruction such as "tear here".

By means of the invention it is possible for the bag to be opened in a controlled manner without experiencing random tearing of the bag with consequent spillage since the corner can be removed with one swift motion as the bag material readily tears along the line of the crimping until the tear reaches the adhesive strip 13 whereupon the tear travels along the upper edge of the strip.

The adhesive securing the strip 13 to the bag may be of a permanent or re-usable nature and in either case is sufficiently strong to ensure that the tear does not creep under the adhesive strip.

Where the adhesive provided is strong but re-usable the strip may be removed after the corner of the bag has been torn off and serve to re-close the opened portion of the bag by overlapping the edges of the opening with the strip or by folding the bag at the opening and securing the folded portion and applying the strip.

As shown in Figure 2, a re-close tab 16 in the form of a further adhesive strip separate from the adhesive strip 13 may be mounted on the adhesive strip 13 at one side of the bag. This may be made of plastics material (e.g. PVC) or paper and may be suitably marked with instructions so that the user may peel off the tab 16, fold over the corner of the bag at the opening and secure the folded over flap with the re-close tab.

The adhesive of said strip 13 is sufficiently weak to permit removal of the strip for re-use but sufficiently strong to prevent creep of the tear under the adhesive strip.

In Figure 2 a marginal portion 17 of the re-close tab may be left free of adhesive, or have the adhesive inhibited, to enable the close tab to be gripped easily by the user.

The example of Figure 3 is similar to that shown in Figure 2 with the exception that the first adhesive strip 20 is attached to the surface of the bag at an obtuse angle to the longitudinal side of the bag, e.g. 45° instead of parallel to the transverse region. The label may be formed of two limbs at right angles (as shown in Figure 3a), located on each side of the bag respectively and opposite to each other.

In the examples of Figures 2 and 3 the adhesive on the first adhesive strip is such that it is not intended to be re-used and is of sufficient strength to prevent the strip from being lifted when tearing of the bag takes place for the purpose of opening the bag. The adhesive on the re-close tab is a low-tack adhesive suitable for the tab to be re-used several times.

In the example shown in Figures 4, 5 and 6, the bag label comprises an elongated strip 30 which extends around one edge of the bag and to both sides to about an equal distance across the front and back of the bag. In this example the re-close label or tab 31 is an integral part of the sheet material from which the bag label is formed.

The bag labels in this example are formed in a series on a backing web 32. The removable re-close tab 31 is butt cut to form a first longitudinal edge 33, and two shorter end edges 34, 35. A second longitudinal edge 36 is formed by a portion of the edge of the bag label proper. The shorter end edges 34, 35 extend from said first longitudinal edge 33 towards but remain short of said second longitudinal edge 36 so as to leave small attachment regions 37, 38.

Figure 6 shows the bag label from the rear. The area marked A carries an adhesive coating of sufficient strength to retain the label in a permanent position and to prevent tearing beneath the top edge of the label. The areas B and C also preferably carry an adhesive coating of the same kind as on area A. Of the regions D and E of the re-seal label 31, the area D has no adhesive coating or may carry an adhesive coating which has been inhibited by a suitable process step. The area E has a re-usable adhesive coating.

The re-close tab may be suitably printed with instructions for use and likewise the label may be printed in the area F to indicate nature of goods and price, etc.

The arrangement shown in Figures 7 and 8 is similar to that of Figures 5, 6 and 7 in that a removable tab 31 is butt cut from the adhesive strip 30. However, in the region G extending over one end of the tab and to the full width of the strip

30 the adhesive is omitted or inhibited so as to enable the user to lift the end of the tab for removal thereof.

The adhesive on the strip extends over the entire surface with the possible exception of the area G and is of sufficient strength to constrain tear propagation when opening the bag but will allow re-use of the tab to re-close the bag.

Preferably the strip and the adhesive are transparent so that the strip can be applied over the bag which may have printing in the region of application without obscuring the printing.

In a further embodiment the strip demarcating the tear path is in the form of an adhesive coating of plastics material applied in liquid form to one or both sides of the bag and allowed to set.

Claims

1. A bag of sheet material having a reinforcing strip for guiding a tear in the bag material along a predetermined path so that the bag can be torn along the path to form an opening in the bag, whereby the reinforcing strip (13) is adhesively applied to the surface of the material of the bag, characterised in that the strip (13) includes an adhesive re-close tab (16,20,31) which is detachable therefrom and which may be used to re-close the opening in the bag.
2. A bag as claimed in claim 1, characterised in that the re-close tab (31) is formed as a part of the reinforcing strip 13.
3. A bag as claimed in claims 1 or 2, characterised in that the re-close tab (31) is a substantially rectangular elongate portion punched from the reinforcing strip (30).
4. A bag as claimed in claims 1,2 or 3, characterised in that the re-close tab is defined by a first longitudinal edge (33) and two shorter edges (34,35) and a second longitudinal edge (36), the second longitudinal edge (36) being a portion of an edge of the reinforcing strip (13), the shorter edges (34,35) extending from the first longitudinal edge (33) towards but not joining the second longitudinal edge (36), so that the re-close tab is partially attached to the reinforcing strip and the re-close tab is torn from the reinforcing strip for removal.
5. A bag as claimed in any one of claims 2,3 or 4, characterised in that the adhesive used to apply the reinforcing strip to the surface of the bag is sufficiently weak to permit removal of the re-close tab for use but sufficiently strong to prevent creep of the tear under the reinforcing strip.
6. A bag as claimed in claim 1, characterised in that the re-close tab comprises a low tack reusable adhesive strip of material (16,20) adhered to the surface of the reinforcing strip.
7. A bag as claimed in any one of claims 1 to 6, characterised in that the re-close tab includes a grip portion (17,D and G) to be gripped between the user's fingers.
8. A bag as claimed in claim 7, characterised in that the grip portion (17,D or G) has the adhesive thereon inhibited for the ease and comfort of the user.
9. A bag as claimed in claim 7, characterised in that the grip portion (17,D or G) is free of adhesive for the ease and comfort of the user.
10. A bag as claimed in claim 7, characterised in that the reinforcing strip has a transverse stripe which is devoid of adhesive or over which the adhesive is inhibited, the grip portion (G) of the re-close tab being positioned in the said stripe.
11. A bag as claimed in any one of claims 1 to 10, characterised in that reinforcing strip extends from a position on one side of the bag distanced between one third and one half the width of the bag from an edge, around the edge to an opposing position on the other side of the bag.
12. A bag as claimed in any one of claims 1 to 11, characterised in that the bag is provided with a slit or notch at an edge of the bag adjacent the guiding means, the slit or notch being arranged to assist in the starting of a tear.
13. A bag as claimed in any one of claims 1 to 12 characterised in that the bag is provided with tear position indicator means adjacent the tear guiding means.
14. A bag as claimed in any one of claims 1 to 13, characterised in that the reinforcing strip is spaced from a sealed end 11 at a distance according to the required size of the opening.
15. A method of forming a re-closeable packaging bag of sheet material comprising forming the bag, applying a reinforcing strip to a part of the bag so that the reinforcing strip can guide a tear in the bag material along a predetermined path and the bag can be torn along the path to

form an opening in the bag, whereby the reinforcing strip is adhesively applied to the surface of the material of the bag, characterised in that the strip includes an adhesive re-close tab which is detachable therefrom and which may be used to re-close the opening in the bag.

Patentansprüche

1. Beutel aus Blattmaterial mit einem Verstärkungsband zum Lenken eines Risses in dem Beutelmateri-
al entlang eines vorbestimmten Wegs, so daß der Beutel entlang des Wegs zum Bilden einer Öffnung in dem Beutel auf-
reißbar ist, wobei das Verstärkungsband (13) anhaftend an der Oberfläche des Beutelmateri-
als angebracht ist,
dadurch gekennzeichnet,
daß das Band (13) einen anhaftenden Wieder-
verschleißstreifen (16, 20, 31) aufweist, welcher
von ihm lösbar ist und zum Wiederverschlie-
ßen der Öffnung in dem Beutel verwendbar ist. 10
2. Beutel nach Anspruch 1,
dadurch gekennzeichnet,
daß der Wiederverschleißstreifen (31) als ein
Teil des Verstärkungsbands (13) ausgebildet
ist. 15
3. Beutel nach Anspruch 1 oder 2,
dadurch gekennzeichnet,
daß der Wiederverschleißstreifen (31) ein in
dem Verstärkungsband (30) gestanzter, im we-
sentlichen rechtwinkliger länglicher Abschnitt
ist. 20
4. Beutel nach Anspruch 1, 2 oder 3,
dadurch gekennzeichnet,
daß der Wiederverschleißstreifen durch einen
ersten Längsrand (33) und zwei kürzere Rän-
der (34, 35) und einen zweiten Längsrand (36)
festgelegt ist, wobei der zweite Längsrand (36)
ein Abschnitt eines Rands des Verstärkungs-
bands (13) ist und sich die kürzeren Ränder
(34, 35) von dem ersten Längsrand (33) zu
dem zweiten Längsrand (36) erstrecken, mit
diesem aber nicht verbunden sind, so daß der
Wiederverschleißstreifen teilweise mit dem
Verstärkungsband zusammenhängt und der
Wiederverschleißstreifen zum Entfernen aus
dem Verstärkungsband gerissen wird. 25
5. Beutel nach einem der Ansprüche 2, 3 oder 4,
dadurch gekennzeichnet,
daß das zum Anbringen des Verstärkungs-
bands an der Oberfläche des Beutels verwen-
dete Haftmittel ausreichend schwach ist, um
das Entfernen des Wiederverschleißstreifens
zum Gebrauch zu ermöglichen, aber ausrei-
chend stark ist, um das Wandern des Risses
unter dem Verstärkungsband zu verhindern. 30
6. Beutel nach Anspruch 1,
dadurch gekennzeichnet,
daß der Wiederverschleißstreifen ein wieder-
verwendbares Haftband geringer Haftkraft aus
an der Oberfläche des Verstärkungsbands an-
haftendem Material (16, 20) umfaßt. 35
7. Beutel nach einem der Ansprüche 1 bis 6,
dadurch gekennzeichnet,
daß der Wiederverschleißstreifen einen Greif-
abschnitt (17, D und G) umfaßt, welcher mit
den Fingern des Benutzers ergriffen wird. 40
8. Beutel nach Anspruch 7,
dadurch gekennzeichnet,
daß das Haftmittel auf dem Greifabschnitt (17,
D oder G) zur Entlastung und Bequemlichkeit
des Benutzers gehemmt ist. 45
9. Beutel nach Anspruch 7,
dadurch gekennzeichnet,
daß der Greifabschnitt (17, D oder G) zur Ent-
lastung und Bequemlichkeit des Benutzers frei
von Haftmittel ist. 50
10. Beutel nach Anspruch 7,
dadurch gekennzeichnet
daß das Verstärkungsband einen streifenförmigen
Querbereich aufweist, welcher frei von
Haftmittel ist oder auf welchem das Haftmittel
gehemmt ist, wobei der Greifabschnitt (G) des
Wiederverschleißstreifens in dem Querstreifen-
bereich angeordnet ist. 55
11. Beutel nach einem der Ansprüche 1 bis 10,
dadurch gekennzeichnet,
daß sich das Verstärkungsband von einer zw-
ischen einem Drittel und einer Hälfte der Breite
des Beutels von einem Rand entfernten Posi-
tion an einer Seite des Beutels aus um den
Rand zu einer gegenüberliegenden Position
auf der anderen Seite des Beutels erstreckt.
12. Beutel nach einem der Ansprüche 1 bis 11,
dadurch gekennzeichnet,
daß der Beutel an einem Rand des Beutels in
der Nähe des Reißmittels einen Schlitz oder
eine Kerbe aufweist, wobei der Schlitz oder die
Kerbe dazu eingerichtet sind, den Beginn eines
Risses zu unterstützen.
13. Beutel nach einem der Ansprüche 1 bis 12,
dadurch gekennzeichnet,
daß der Beutel ein in der Nähe des Reißmitt-

tels angeordnetes Reißpositionsanzeigemittel aufweist.

14. Beutel nach einem der Ansprüche 1 bis 13, dadurch gekennzeichnet, 5
daß das Verstärkungsband in Abstand von einem verschlossenen Ende (11) in einer der erforderlichen Größe der Öffnung entsprechenden Entfernung angeordnet ist. 10
15. Verfahren zum Bilden eines wiederverschließbaren Verpackungsbeutels aus Blattmaterial, umfassend die Schritte Bilden des Beutels, Anbringen eines Verstärkungsbands an einem Teil des Beutels, so daß das Verstärkungsband einen Riß in dem Beutelmateriel entlang eines vorbestimmten Wegs lenken kann und der Beutel entlang des Wegs zum Ausbilden einer Öffnung in dem Beutel aufgerissen werden kann, wobei das Verstärkungsband anhaftend auf der Oberfläche des Beutelmateriels angebracht ist, 15
dadurch gekennzeichnet, 20
daß das Band einen anhaftenden Wiederverschließstreifen umfaßt, welcher von ihm lösbar ist und zum Wiederverschließen der Öffnung des Beutels verwendet werden kann. 25

Revendications

1. Sac réalisé à partir d'un matériau en feuille ayant une bande de renfort pour guider un arrachement dans le matériau du sac le long d'une trajectoire prédéterminée afin que le sac puisse être déchiré le long de la trajectoire en formant une ouverture dans le sac, de manière que la bande de renfort (13) soit appliquée par adhésif sur la surface du matériau du sac, caractérisé en ce que la bande (13) comporte une languette de refermeture adhésive (16,20,31) qui en est détachable et qui peut être utilisée pour refermer l'ouverture du sac. 30
2. Sac selon la revendication 1, caractérisé en ce que la languette de refermeture (31) est réalisée en tant que partie de la bande de renfort (13). 35
3. Sac selon les revendications 1 ou 2, caractérisé en ce que la languette de refermeture (31) est une portion allongée sensiblement rectangulaire poinçonnée à partir de la bande de renfort (30). 40
4. Sac selon les revendications 1, 2 ou 3, caractérisé en ce que la languette de refermeture est délimitée par une première arête longitudinale (33) et deux arêtes plus courtes (34,35) et 45

une seconde arête longitudinale (36), la seconde arête longitudinale (36) étant une portion d'une arête de la bande de renfort (13), les arêtes plus courtes (34,35) s'étendant à partir de la première arête longitudinale (33) vers la seconde arête longitudinale (36), sans s'y raccorder, afin que la languette de refermeture soit partiellement fixée à la bande de renfort et que la languette de refermeture soit détachée de la bande de renfort pour l'enlever. 10

5. Sac selon l'une quelconque des revendications 2,3 ou 4, caractérisé en ce que l'adhésif utilisé pour appliquer la bande de renfort sur la surface du sac est suffisamment faible pour permettre un enlèvement de la languette de refermeture aux fins d'utilisation, mais suffisamment fort pour empêcher un fluage de la partie d'arrachement sous la bande de renfort. 15
6. Sac selon la revendication 1, caractérisé en ce que la languette de refermeture comprend une bande d'un matériau adhésif re-utilisable de faible adhérence (16,20) qui adhère à la surface de la bande de renfort. 20
7. Sac selon l'une quelconque des revendications 1 à 6, caractérisé en ce que la languette de refermeture comporte une partie de préhension (17,D et G) pouvant être saisie par les doigts de l'utilisateur. 25
8. Sac selon la revendication 7, caractérisé en ce que sur la partie de préhension (17,D et G), l'adhésif est inhibé pour le confort et le bien-être de l'utilisateur. 30
9. Sac selon la revendication 7, caractérisé en ce que la partie de préhension (17,D et G) est exempte d'adhésif pour le confort et le bien-être de l'utilisateur. 35
10. Sac selon la revendication 7, caractérisé en ce que la bande de renfort comporte une bande transversale qui est exempte d'adhésif ou sur laquelle l'adhésif est inhibé, la partie de préhension (G) de la languette de refermeture étant positionnée sur ladite bande. 40
11. Sac selon l'une quelconque des revendications 1 à 10, caractérisé en ce que la bande de renfort s'étend depuis un emplacement sur un côté du sac situé à une distance d'une arête comprise entre le tiers et la moitié de la largeur du sac, autour de l'arête vers un emplacement opposé sur l'autre côté du sac. 45

- 12.** Sac selon l'une quelconque des revendications 1 à 11, caractérisé en ce qu'il est muni d'une fente ou d'une entaille sur une arête du sac adjacente aux moyens de guidage, la fente ou encoche étant conçue de manière à aider au démarrage de l'arrachement. 5
a
- 13.** Sac selon l'une quelconque des revendications 1 à 12, caractérisé en ce qu'il est muni de moyens indicateurs de la position d'arrachement, adjacents aux moyens de guidage de l'arrachement. 10
- 14.** Sac selon l'une quelconque des revendications 1 à 13, caractérisé en ce que la bande de renfort est espacée d'une extrémité scellée (11) selon une distance fonction des dimensions requises de l'ouverture. 15
a 20
- 15.** Procédé de réalisation d'un sac d'emballage pouvant être refermé, en un matériau en bande consistant à former le sac ; appliquer une bande de renfort sur une partie du sac afin que la bande de renfort puisse guider un arrachement dans le matériau du sac le long d'une trajectoire prédéterminée et que le sac puisse être déchiré le long de la trajectoire pour former une ouverture dans le sac, de manière que la bande de renfort soit appliquée par adhésif sur la surface du matériau du sac, caractérisé en ce que la bande comprend une languette adhésive de refermeture qui peut en être détachée et qui peut être utilisée pour refermer l'ouverture du sac. 25
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