POUCH WITH A STRAW HOLE AND
METHOD OF MANUFACTURING THE SAME

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ABSTRACT
A pouch is provided with a straw hole based on a structure
that does not cause problems when the contents is filled
therein and which does not generate any pin holes in the side
seal section. A structure is also provided that does not cause
any trouble when used in an automatic filling machine and
a method is provided for manufacturing the same. The pouch
has a straw hole (2) for a straw to be inserted therein with
the straw hole (2) back-sealed with a seal material (3) from
the inside thereof. The seal material (3) covers the straw hole
(2), and a portion of the seal material (2) is cut off from the
seal material (2) with the size sufficient for heat-sealing a
periphery of the straw hole (2). The method of manufactur-
ing the pouch is such that after the straw hole (2) is punched
out on a front-side film thereof, a seal tape (6) temporarily
punched is fed to the rear side of the front-side film. The seal
tape (6) is pulled off to leave only the temporarily sealed
section there. The temporarily sealed section is finally sealed.
Then the normal bottom seal 9a and side seal 8a are applied
and cutting is performed to provide a bag.
POUCH WITH A STRAW HOLE AND METHOD OF MANUFACTURING THE SAME

FIELD OF THE INVENTION

[0001] The present invention relates to a pouch making it possible for users to insert a straw from a straw hole into inside the inside of the pouch for drinking such drinks as juice or milk therein as well as to a method of manufacturing the same.

BACKGROUND OF THE INVENTION

[0002] In a case of a pouch for drinks with a straw hole, the pouch is automatically manufactured by a bag making machine, so that substantial contrivance is required for sealing the straw hole from inside of the pouch.

[0003] In one of the methods known currently, a seal tape 22 is set inside the pouch in the horizontal direction as shown in FIG. 5 so that the seal tape 22 covers the straw hole 21 from inside thereof, and a circumference of the straw hole 21 indicated by the sign W in FIG. 7 and portions 24, 24a crossing the side seals 23, 23a in FIG. 5 and FIG. 6 respectively are heat-sealed.

[0004] Because of this feature, inside the pouch 20, a portion other than the heat-sealed area of the seal tape 22 is separated from the pouch 20 toward the content therein as shown in FIGS. 6 and 7, and this separated portion of the tape 22a sometimes cause troubles in filling content in the bag. Further the thickness of the sections where side seals 24, 24a are applied to the seal tape 22 is larger by the thickness of the seal tape 22 than that side seals 23 and 23a, so that sometimes pin holes may be generated due to a fault in heat sealing, and if the temperature for heat sealing is raised to address generating the pin holes, excessive heat is applied to other side seals 23 and 23a, which in turn may generate pin holes there.

[0005] In addition, as the thickness of the pouch 20 in the section where the seal tape 22 is applied becomes larger as compared to those in other areas thereof, and when this pouches 20 are set in a magazine of an automatic filling machine or the like, the pouches 20 are not well aligned, which may easily cause troubles.

[0006] Further, the content is easily stuck to and deposited on the tape 22a, and fungus or bacteria deposited on the tape 22a may cause contamination of the content.

OBJECTS OF THE INVENTION

[0007] The present invention was made in the light of the circumstances as described above, and it is an object of the present invention to provide a sanitary pouch with a straw hole which causes no trouble when the content is filled therein, and which does not generate any pin holes in the side-sealed sections, and also which does not cause any trouble in an automatic filling machine, and to provide a method of manufacturing the pouch with a straw hole.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1A is an explanatory view showing a standing pouch according to the present invention;

[0009] FIG. 1B is an explanatory view showing a gazette pouch according to the present invention;

[0100] FIG. 1C is an explanatory view showing a standing pouch having cutting portion on the both sides;

[0111] FIG. 2 is a view showing a cross section taken along the line A'-A' in FIG. 1;

[0112] FIG. 3 is a front view seen in the direction a in FIG. 2;

[0113] FIG. 4 is an explanatory view for a method of manufacturing the pouch according to the present invention;

[0114] FIG. 5 is an explanatory view showing a pouch with a straw hole based on the conventional technology;

[0115] FIG. 6 is a cross-sectional view taken along the line B'-B' of FIG. 5, and

[0116] FIG. 7 is an enlarged cross-sectional view showing the straw hole based on the conventional technology.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0117] FIGS. 1 to 3 each show a pouch according to the present invention. A pouch 1 according to the present invention has a straw hole sealing material 3 slightly larger than a straw hole 2 heat-sealed from the inner side of the straw hole 2 formed on a front-side film 4.

[0118] FIG. 4 shows a method of manufacturing the pouch 1 described above, and in this method, at first the straw hole 2 is punched by a straw hole punching machine 12 on the front-side film 4. Then a seal-material tape 6 is fed to the back side of this straw hole 2. This seal tape 6 has a hole temporarily punched (or partially punched) by a temporally punching machine 13a with the size slightly larger than that of the straw hole 2. The temporarily punched section 13 of this seal material tape 6 is guided to the back side of the straw hole 2, and then a periphery of the temporarily punched section 13 is temporally heat-sealed by a temporarily heat-sealing device 7. Then the front side film 4 and a rear side film 5 are aligned with each other by pinch rollers 14, 14a, and the section of the straw hole sealing material temporally sealed by the temporally sealing machine 7 is finally sealed by a finally sealing machine 11. Then, after a bottom seal 9a is applied by a bottom seal bar 9, a side seal 8a is applied by a side seal bar 8, and finally the bags are cut into discrete pieces by a cutter 10.

[0119] In this figure, the sign 15 indicates a reel which winds up the seal material tape 6a after the seal material 3 is punched out therefrom.

[0120] As described above, in the pouch with a straw hole according to the present invention, only the back side of the straw hole is heat-sealed with a seal material, which provides the following advantageous effects.

[0121] 1. In a manner that is different from the conventional type of pouches, there is no odd portion of the seal material of the invention that may cause a problem when the content is filled therein.

[0122] 2. In a manner that is different from the conventional type of pouches, the seal material of the invention does not interfere with the side seal section, so that no pin holes are generated in the side seal section.

[0123] 3. In a manner that is different from the conventional type of pouches, the pouch of the invention does not
become thicker by the thickness of the seal material, so that no trouble occurs when the content is filled therein.

[0024] 4. There is no odd tape left inside the pouch of the invention after sealing, so that the pouch is not contaminated by fungus or bacteria and the inside is always kept clean.

What is claimed is:

1. A pouch with a straw hole for inserting a straw therein, the pouch comprising:
   a pouch film with a straw hole;
   a straw hole seal material for sealing the straw hole from the back side thereof, the seal material being cut to a size to sufficiently cover the straw hole and having a heat seal to the pouch film, the heat seal having a heat seal width around the straw hole and said size of said the seal material being slightly larger than the heat seal width around the straw hole.

2. A method of manufacturing a pouch with a straw hole, the method comprising the steps of:
   feeding a front-side film forming one face of the pouch and a back-side film forming another face thereof respectively from rolls;
   punching straw holes on one of the two sheets of films;
   feeding a seal material tape with holes and corresponding temporally punched portions, having a size slightly larger than that of the straw hole punched on one of the two sheets of films, to the rear side of the film with straw hole punched thereon;
   temporally sealing the straw holes by aligning the temporally punched portion of the seal material tape with the straw hole; subsequently separating the seal material tape to leave only the portion temporally sealed over the straw hole and then finally sealing the temporally sealed section; and
   finally sealing side portions and bottom portions of the front-side film and the back-side film and forming a pouch by cutting the central section between the side seal sections.

3. The method of manufacturing a pouch with a straw hole according to claim 2, further comprising a step of inserting a folded bottom tape into a bottom side of the two sheets of films to provide a standing pouch.

4. The method of manufacturing a pouch with a straw hole according to claim 2, further comprising the step of inserting a folded gazette tape along side seals of the two sheets of films to provide a gazette bag.

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