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71 Applicant: AZIONARIA COSTRUZIONI MACCHINE
AUTOMATICHE-A.C.M.A.-S.p.A.
Via Cristoforo Colombo 1
I-40131 Bologna(IT)

72 Inventor: Colamussi, Arturo
Via Borso 8
I-44100 Ferrara(IT)

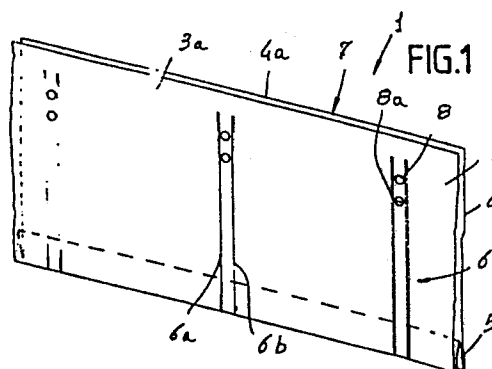
72 Inventor: Melchiorri, Andrea
Corso del Popolo 51
I-44078 Pontelagoscuro Prov. of Ferrara(IT)

72 Inventor: Galimberti, Gianfranco
Via Pancaldo 4
I-20129 Milan(IT)

74 Representative: Modiano, Guido et al,
MODIANO, JOSIF, PISANTY & STAUB Modiano &
Associati Via Meravigli, 16
I-20123 Milan(IT)

54 Heat sealable film strip for the packaging of products.

57 The film strip (1) for the packaging of products comprises a pair of adjacent walls (3,4), formed by longitudinal folding of heat sealable plastic film, and being joined to one another along transverse sealing lines (6, 6a, 6b) which extend from the longitudinal folding edge (5) to the proximity of the opposite edges (3a, 4a) of said walls (3,4) and having, in the proximity of said opposite edges (3a, 4a), at least one eyelet (8, 8a).



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HEAT SEALABLE FILM STRIP FOR THE PACKAGING OF PRODUCTS

The present invention relates to a thermoplastic film strip in reels for the packaging of various products, in particular of the type intended for the production of bags obtained by means of transverse sealing and individually detachable for use.

As is known, the current machines for packaging of products in bags made of heat sealable plastic sheet material work on the basis of a strip wound onto a reel, from which, in successive operating stations, are formed the pockets intended to contain the products. The products are inserted into the pockets at a subsequent filling station.

It is therefore necessary to suitably arrange the strip to be fed into the filling machine.

Furthermore, the above described bags are often provided with an inner bellows-like fold on the bottom, to increase capacity and facilitate filling. At this fold there is therefore an obvious increase in the thickness of the transverse cross section.

In such cases, the accumulation of the sheet material, and in particular the winding of the film strip in reels, so as to provide a product easily usable in conventional machines for packaging products in bags of thermoplastic material, becomes difficult. Such reels are in fact poorly stable when being formed and difficult to manipulate during packaging, due to the relevant difference in diameter deriving from the abovementioned difference in thickness of the film strip cross section.

The aim of the present invention is to solve the above

described problem, by devising a thermoplastic film strip adapted to be fed into a filling machine so as to facilitate the packaging of various products.

5 Within the scope of this aim, a further object of the present invention is to provide a thermoplastic film strip adapted to be wound in reels to form a product easily usable to package various products.

10 This aim and this object are both achieved, according to the invention, by the present film strip for the packaging of products, characterized in that it comprises at least two adjacent walls, formed by means of longitudinal folding of a heat sealable plastic film, and joined together along transverse sealing lines which extend from the longitudinal folding edge to the proximity of the opposite
15 edges of said walls, and having, in the proximity of said opposite edges, at least one eyelet.

20 The details of the invention will become apparent from the detailed description of some preferred embodiments of the thermoplastic film strip in reels for the packaging of various products, illustrated by way of example in the accompanying drawings, wherein:

figure 1 is a perspective view of a portion of the present strip;

25 figure 2 is a perspective view of the film strip longitudinally folded for winding into reels;

figure 3 is a view of the reel formed with said film strip;

figs 4, 5 and 6, finally, show other aspects of the strip according to the invention.

With particular reference to said figures, the reference numeral 1 generally indicates the film strip in heat sealable plastic material, intended to be wound to form a reel 2. The film strip 1 comprises two walls 3,4 obtained by longitudinal folding of the plastic film and forming an inner bellows-like fold 5 along the longitudinal folding edge.

The walls 3, 4 are joined to one another along sealing lines 6, equidistant and transverse with respect to the longitudinal extension of the film strip. The sealing lines 6 define a series of adjacent pockets 7, adapted to constitute respective bags for the packaging of products.

The transverse sealing lines 6 extend from said longitudinal folding edge, where the bellows-like fold 5 forms the bottom of the bag, to the proximity of the opposite edge, so as to not affect the marginal edges 3a, 4a of the walls 3, 4. These edges 3a, 4a delimit the opening through which the products to be packaged will be inserted.

Preferably, said transverse sealing lines consist of a pair of adjacent sealing lines 6a, 6b. Between this pair of lines, a cutting line can be executed, so as to achieve the detachment of the individual bags.

The end of the sealing lines 6 proximate to the edges 3a, 4a is provided with an eyelet 8, advantageously obtained by means of punching and conveniently arranged between the lines 6a, 6b. The eyelets 8 are intended, in particular, to allow the entrainment of the strip 1 by a feeder conveyor element of a conventional filling machine. It is also possible to provide the presence of two superimposed eyelets

8, 8a, one of which is intended for hooking, while the other ensures the detachment of the bags even in case of an imperfect alignment of the final cutting line, executed on the upper region of the film strip, with respect to the one
5 previously provided along the sealing line.

In order to adapt the film strip for being wound into reels, the longitudinal folding of the walls 3, 4 on themselves is performed, so as to bring together the flaps 3a, 4a at the margin 5a of the bellows-like fold 5. The
10 folded portion of the film strip, indicated by the reference numeral 9 in the drawing, doubles the thickness of the film strip in the affected region. The film strip thus has the same thickness along all its transverse cross section, since the thickness at the bellows-like fold 5, not affected by
15 the folded portion 9, is already double.

This finally allows to form a reel 2 with constant diameter, with obvious advantages both from the point of view of its manufacture and of its subsequent use.

Advantageously, the portion 9 is folded on the side of
20 the film strip which is on the outside with respect to the winding axis of the reel 2. In this way the eyelets 8 face outwards.

The arrangement of the strip already wound into reels simplifies greatly the structure of the filling machine
25 since the strip can be produced separately using equipment, the operative speed of which does not depend on that of the filling machine. One such item of equipment can be used for several filling machines at the same time. A basic prerogative of the present invention is the possibility of
30 being able to associate the strip with a conveyor which

supplies a filling machine. In particular, the conveyor will have hook-like elements adapted to entraining the eyelets 8, to make it possible to attach the strip to the conveyor and therefore convey it towards the filling machine.

5 According to another aspect of the invention, the ends of the transverse sealing lines 6, proximate to the edges 3a, 4a have an enlarged zone 10, having an eyelet 8 formed therein, as illustrated in figure 4.

10 As illustrated in figure 5, the enlarged zone 10 unites the ends of the sealing lines 6a, 6b, and may have formed therein a pair of eyelets 8, 8a.

15 Furthermore, it is also possible to form a pre-cutting line or scored line 11, as shown in figures 5 and 6, so as to define a preferred line at which the bags may be separated.

 In the practical embodiment of the invention, the materials employed, as well as the shape and the dimensions, may be any according to the requirements.

C L A I M S

1 1. Film strip for the packaging of products,
2 characterized in that it comprises at least two adjacent
3 walls (3, 4) formed by longitudinal folding of a heat
4 sealable plastic film and joined together along transverse
5 sealing lines (6, 6a, 6b) which extend, from the
6 longitudinal folding edges, to the proximity of the opposite
7 edges (3a, 4a) of said walls (3, 4), and having, in the
8 proximity of said opposite edges (3a, 4a), at least one
9 eyelet (8, 8a).

1 2. Film strip according to claim 1, characterized in
2 that it comprises an inner bellows-like fold (5) along said
3 longitudinal folding edge, and in that it is adapted for
4 being wound into reels (2) by being folded longitudinally to
5 one side, on itself, so as to place said edges (3a, 4a)
6 adjacent to the margin (5a) of said bellows-like fold (5).

1 3. Film strip according to claims 1 and 2,
2 characterized in that said at least two walls (3, 4) are
3 folded longitudinally to the side facing outwards with
4 respect to the winding axis of said reel (2), so as to
5 arrange said eyelets (8, 8a) outwards.

1 4. Film strip according to claim 1, characterized in
2 that said transverse sealing lines (6, 6a, 6b) comprise at
3 least two adjacent sealing lines (6a, 6b), wherebetween a
4 cutting line (11) is executable, so as to achieve the
5 detachment of individual bags (7) for the packaging of
6 products.

1 5. Film strip according to the preceding claims,
2 characterized in that said at least one eyelet (8) is
3 provided midway between said at least two sealing lines (6a,

4 6b).

1 6. Film strip according to claim 1, characterized in
2 that said sealing lines (6a, 6b) have an enlarged zone (10),
3 said eyelet (8) being formed in said enlarged zone (10).

1 7. Film strip according to claim 1, characterized in
2 that, close to said opposite edges (3a, 4a), are arranged
3 two eyelets (8, 8a) aligned transversally.

1 8. Film strip according to claim 1, characterized in
2 that it has transverse pre-cut lines (11) which extend
3 along said sealing lines (6) respectively.

