

WRAPPING STRUCTURE BY OVERLAP FILM

BACKGROUND OF THE INVENTION

Field of the Invention:

The present invention relates to a wrapping structure for wrapping an object to be wrapped such as for example a tape cassette, a disk cassette and the like by an overlap film such that the overlap film can be opened easily, and more particularly to a structure of its opening portion.

Description of the Related Art:

A box-shaped object to be wrapped such as, for example, a tape cassette, a disk cassette and the like is wrapped by means of an automatic wrapping machine as shown in FIG. 1.

That is, referring to FIG. 1, reference numeral 1 denotes a box-shaped object to be wrapped such as a tape cassette, a disk cassette and the like, and reference numeral 2 denotes a film roll formed by winding an overlap film made of heat shrink, thermal bonding type PP (polypropylene). From this film roll 2, a predetermined length of an overlap film 3 is cut out and the object 1 to be wrapped is wrapped in a so-called caramel wrapping style by means of the overlap film 3.

In the automatic overlapping machine, the object 1 to be wrapped is wrapped by means of the overlap film 3 and then an overlap area at ends of the overlap film is sealed by heat treatment (heat seal).

Although generally the overlap film for wrapping the

object to be wrapped is conventionally provided with a cut tape for allowing smooth opening, recently an overlap film wrapping structure which does not require this cut tape has been proposed (e.g., Japanese Patent Laid-open Application No. 8-104360).

FIG. 2 shows an example of the wrapping structure by an overlap film which does not require this cut film.

The overlap film 3 is a film having heat shrink, thermal bonding property, made of PP or the like ordinarily used and is employed to wrap the box shaped object 1 to be wrapped such as a tape cassette, a disk cassette and the like in the so-called caramel wrapping style.

The overlap film 3 is heat-sealed at a portion in which the ends thereof are overlapped with each other at the front of the object 1 to be wrapped (sealing portion 4 indicated by hatching) and further is heat-sealed at a portion in which the ends thereof are overlapped with each other at the sides of the object 1 to be wrapped (sealing portion 5 indicated by hatching), so that the object 1 to be wrapped is wrapped in a sealing condition.

The wrapping structure of this overlap film 3, as shown in FIG. 2 and FIG. 3, has an opening mouth portion 6 at a part of the sealing portion 4 on the front side thereof.

That is, the sealing portion 4 comprises bonding portions 4a by heat sealing and the opening mouth portion 6 formed in the center between the bonding portions 4a and has such a structure that when the overlap film is opened, the sealing portion 4 is peeled off by hooking the opening mouth

portion 6 with the nail or the like at a pit end of a finger.

The opening mouth portion 6 is formed by performing a mat print of an arrow shape on an inner surface (sealing surface) of the overlap film which overlaps on the upper side at the sealing portion 14.

That is, by performing a mat print 7 on the sealing side surface of the overlap film 3 as shown in FIG. 5, this mat print 7 portion loses heat sealing performance although a portion not printed has a complete heat sealing performance, so that printed portion serves as a non-bonding portion.

The opening mouth portion 6 formed by the mat print is structured so as to be peeled up as shown in FIG. 3 and FIG. 4 by heat shrink at the time of heat treatment. When opening the overlap film, the nail or the like at a finger tip end is hooked on the peeled opening mouth portion 6 as shown in FIG. 6 so as to peel off the sealing portion 4, so that the overlap film 3 can be removed easily.

However, in the conventional overlap film wrapping structure, because the opening mouth portion 6 is not sealed at all, it is peeled largely if it is subjected to heat shrink.

If the peeling of the opening mouth portion 6 is so large, there is a fear that the opening mouth portion 6 may be hooked by anything so that the sealing portion 4 is peeled off unexpectedly during distribution or display on counter and further its appearance gives bad feeling.

SUMMARY OF THE INVENTION

In view of such aspects, it is an object of the

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present invention to provide an overlap film wrapping structure in which an opening mouth portion is appropriately peeled to solve the above problem.

According to the present invention, in an overlap film which is used for wrapping an object to be wrapped and ends of which are overlapped with each other and sealed, and in which an opening mouth portion is provided at a part of a sealing portion by a mat print, there is provided a weak bonding portion formed by dot print or non-print at a part of the opening mouth portion.

According to this structure, the opening mouth portion can be opened easily and kept to be peeled appropriately. Consequently, there is little fear that the opening mouth portion may be hooked and the sealing portion is peeled out during distribution or the like and its appearance becomes better.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an explanatory view for explaining wrapping processes by the overlap film;

FIG. 2 is a perspective view showing a conventional wrapping structure by an overlap film;

FIG. 3 is a plan view of a major part (sealing portion) of the overlap film according to the prior art;

FIG. 4 is a cross-sectional view of a major part (opening mouth portion) of the overlap film according to the prior art;

FIG. 5 is an explanatory view for print (mat print)

on the overlap film;

FIG. 6 is an explanatory view of opening the overlap film;

FIG. 7 is a perspective view showing a most preferable embodiment of a wrapping structure by an overlap film according to the present invention;

FIG. 8 is a plan view of a major part (sealing portion) of the overlap film according to the present invention;

FIG. 9 is a cross-sectional view of a major part (opening mouth portion) of the overlap film according to the present invention; and

FIG. 10 is an explanatory view of print (mat print, dot print) on the overlap film according to the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Hereinafter, an embodiment of the present invention will be described in detail with reference to the accompanying drawings.

FIG. 7 shows a most preferable embodiment of the overlap film wrapping structure according to the present invention. A basic wrapping structure in the embodiment is the same as the above described conventional example.

An overlap film 3 is a film having heat shrink, thermal bonding property made of PP used ordinarily or the like and is employed to wrap a box-shaped object 1 to be wrapped such as a tape cassette, a disk cassette or the like in a so-called caramel wrapping style.

The overlap film 3 is heat-sealed at a portion in which ends of the overlap film 3 are overlapped with each other at the front of the object 1 to be wrapped (sealing portion 4 indicated by hatching) and further is heat-sealed at a portion in which side ends of the overlap film 3 are bent and overlapped with each other at the sides of the object 1 to be wrapped (sealing portion 5 indicated by hatching). Consequently, the object 1 to be wrapped is wrapped in a sealing condition.

As evident from FIGS. 7, 8, the wrapping structure by the overlap film 3 has an opening mouth portion 6 at a part of the sealing portion 4 on the front of the object 1 to be wrapped.

That is, the sealing portion 4 has such a structure that it comprises bonding portions 4a which are bonded by heat sealing and the opening mouth portion 6 formed in the center between the bonding portions 4a and that when the overlap film 3 is opened, the sealing portion 4 is peeled by hooking the opening mouth portion 6 with the nail or the like at a finger tip end.

This opening mouth portion 6 is formed by performing a mat print in an arrow shape on an inner surface (sealing surface) of the overlap film which overlaps on the upper side at the sealing portion 4.

That is, by performing a mat print 7 on the sealing surface of the overlap film 3 as shown in FIG. 10, this mat print 7 portion loses heat sealing performance completely although a portion not printed has a complete heat sealing

performance, so that printed portion serves as a non-bonding portion.

The opening mouth portion 6 formed by mat print is structured so as to be peeled up by heat shrink at the time of heat treatment. When opening this overlap film, the nail or the like at a finger tip end is hooked on the peeled opening mouth portion 6 so as to peel out the sealing portion 4, so that the overlap film 3 can be removed easily.

Although conventionally, there has occurred such a problem as described above because the peeling of the opening mouth portion 6 is large, a special formation print is made so as to keep an appropriate peeling condition of the opening mouth portion 6 in the present example.

That is, as evident from FIG. 8, characters "OPEN" are printed substantial in the center of the mat print portion of the opening mouth portion 6 of the arrow shape and this character portion is formed by dot print.

This dot print refers to a printing style in which print is made in dot pattern formation using print varnish. By performing this dot print 8 on the sealing surface of the overlap film 3 as shown in FIG. 10, the overlap film 3 is partially heat-sealed through gaps between the dots. That is, the portion of the dot print 8 has a heat sealing performance intermediate between the non printed portion and the mat printed portion (half seal).

Thus, the "OPEN" character portion formed by this dot print acts as a weak bonding portion 9 by the half seal.

Because the "OPEN" character portion of the opening mouth portion 6 is the weak bonding portion 9, the opening mouth portion 6 is kept in appropriate peeling condition without being largely peeled as shown in FIGS. 8, 9. This is evident if it is compared with the conventional example shown in FIGS. 3, 4.

When opening this film, it can be opened easily because the weak bonding portion 9 is easily peeled by lightly hooking the opening mouth portion 6 with the nail of the finger tip end or the like.

Although, in this embodiment, the "OPEN" character portion is the weak bonding portion 9 by dot print, it is also permissible to form the weak bonding portion 9 by making the "OPEN" character portion as a non-printed portion (that is, the "OPEN" character portion is formed by printing it in a so-called mortise in mat print).

In this case, by forming the "OPEN" character portion in fine lines or in dotted lines, the weak bonding portion 9 having the same heat sealing performance as the dot print can be ensured.

Further, as evident from FIGS. 7, 8, in the wrapping structure of the present invention, a weak bonding portions 10 by dot print is provided on the right and left sides of the mat print portion of the arrow shape of the opening mouth portion 6 in the sealing portion 4.

Consequently, if the opening mouth portion 6 is hooked by the nail at the finger tip end or the like upon opening the overlap film, the weak bonding portions 10 are

peeled easily, and then the bonding portions 4a are peeled continuously with this weak bonding portions 10. Thus, the overlap film can be opened more easily.

As described above, the wrapping structure by the overlap film according to the present invention is, in an overlap film which is used for wrapping an object to be wrapped, ends thereof are overlapped with each other and sealed, and an opening mouth portion is provided at a part of a sealing portion by the mat print, to provide a weak bonding portion by dot print or non-print at a part of the opening mouth portion. As a result, the opening mouth portion can be opened easily and kept to be appropriately peeled. Thus, there is little fear that the sealing portion may be torn out unexpectedly because the opening mouth portion thereof is hooked during distribution or display on counter and further its appearance becomes better.

Further according to the present invention, because the weak bonding portion on the opening mouth portion is formed in a character form, it is possible to recognize a position of the opening mouth portion clearly according to the characters upon opening the overlap film. Thus, it is easy to open the overlap film. Needless to say, this weak bonding portion may be, for example, graphic design or pattern such as an arrow or the like instead of the character form.

Still further, according to the present invention, because the weak bonding portions by dot print is provided on both sides of the opening mouth portion, the opening procedure for the overlap film is further facilitated.

Having described a preferred embodiment of the present invention with reference to the accompanying drawings, it is to be understood that the present invention is not limited to the above-mentioned embodiment and that various changes and modifications can be effected therein by one skilled in the art without departing from the spirit or scope of the present invention as defined in the appended claims.



What is claimed is:

1. A wrapping structure by a overlap film which is used for wrapping an object to be wrapped, ends of which are overlapped with each other and sealed and which comprises an opening mouth portion provided at a part of a sealing portion by mat print, comprising:

a weak bonding portion formed by dot print or non-print at a part of said opening mouth portion.

2. A wrapping structure by an overlap film according to claim 1, wherein said weak bonding portion on said opening mouth portion is a character form.

3. A wrapping structure by an overlap film according to claim 1 or 2, wherein a weak bonding portion by dot print is provided on both sides of said opening mouth portion.

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