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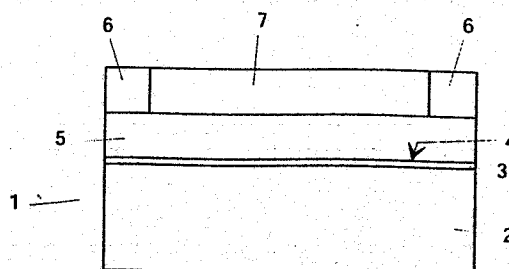
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(54) Titre : Plastic film.

(57) Abrégé :

Plastic film (1, 21), especially for packaging three-dimensional objects such as soup cubes in particular, with a base film (2, 22) made from a polyolefin or polyethylene terephthalate that is preferably metallised on one side, where an oriented polypropylene film, preferably a biaxially oriented polypropylene film or a PET film, is provided as the base film (2, 22), on one side of which, preferably the side with the metallisation (3), printing (5) is provided, to which in turn a pattern coating of a sealing lacquer (6) that seals at a raised temperature is applied.



Description

Plastic film

The invention relates to a plastic film, especially for packaging three-dimensional objects such as soup cubes in particular, with a base film made from a polyolefin or polyethylene terephthalate that is preferably metallised on one side.

DE-A-199 48 286 discloses a plastic film, particularly for packaging preferably cube-shaped products such as soup cubes, where the plastic film consists of a polyolefin film, preferably PE or PP.

On the basis of this, the aim of the invention is to design a plastic film of the kind outlined above in such a way that simple packaging of the objects and largely airtight closure of them is guaranteed.

In the solution to this problem proposed by the invention, an oriented polypropylene film, preferably a biaxially oriented polypropylene film or a PET film, is provided as the base film, on one side of which, preferably the side with the metallisation, printing

is provided, to which in turn a pattern coating of a sealing lacquer that seals at a raised temperature is applied.

Polypropylene film oriented in one direction or biaxially and PET film have very good tightness properties, which are improved even more by the addition of metallisation on one side.

The pattern coated sealing lacquer permits tight closure of a pack made from this plastic film that is folded around the object, with the pattern application making sure that only as much sealing lacquer is used as is necessary for closing purposes.

In accordance with an advantageous further development of the invention, the areas of the printing and / or metallisation to which the sealing lacquer is not applied are provided with an overlacquer that is also pattern coated.

This means that these areas of the print motif and / or the metallisation in addition to those coated with the sealing lacquer are protected and the thickness of the film remains consistent across its entire width, so that even winding of the film is possible.

In another advantageous further development of the invention, a primer and / or tie layer is provided between the metallisation and the printing.

It has proved to be very advantageous if in accordance with another advantageous further development of the invention a compact film is provided as the base film.

A film with cavities in it can, however, be provided as the base film in accordance with the invention too.

Both types of film have proved to be very effective in this context, with the film with cavities in it appearing to be largely opaque, because light refraction occurs at the edges of the cavities.

The cavities can take the form of vacuoles that are produced when the film is oriented.

It is, however, also possible to produce the cavities by foaming.

If a compact base film is used, a thickness of about 10 to 100 μ , preferably 20 to 50 μ and in particular 28 to 32 μ is provided for this film in accordance with the invention.

If a base film with cavities is used on the other hand, a thickness of about 10 to 100 μ , preferably 20 to 50 μ and in particular 35 to 40 μ has proved to be advantageous.

It is provided in another advantageous further development of the invention that the side of the base film facing away from the printing that is located preferably on the inside is provided with at least one further layer.

One embodiment of the invention is illustrated in the drawings:

Fig. 1 is a diagrammatic cross section of a film structure with a clear film and

Fig. 2 is a diagrammatic cross section of another film structure with an opaque film.

1 in Fig. 1 is a plastic film that has a base film 2 which consists of oriented polypropylene (OPP). The orientation can be carried out either in one direction or biaxially. This base film 2 is provided with metallisation 3 on one side. To improve bonding, the metallisation 3 is provided on its side facing away from the base film 2

with a primer layer 4, to which in turn printing 5 is applied. A pattern coating of a sealing lacquer 6 that seals at a raised temperature is applied to this printing 5, with the sections to which this sealing lacquer 6 is not applied being provided with an overlacquer 7.

A thickness of $30\ \mu$ has proved to be effective for the base film 2 made from oriented polypropylene (OPP). The areas to which the sealing lacquer 6 are applied are arranged in such a way that tight closures can be produced when a section of the plastic film 1 is folded up around a three-dimensional object that is not illustrated.

The main difference in the embodiment of a plastic film 21 as shown in Fig. 2 is that an opaque and oriented polypropylene film (OPP) with a thickness of $38\ \mu$ is used as the base film 22.

The opacity of the base film is produced during orientation, when vacuoles are formed in the film and cause refraction of light.

The cavities can, however, also be produced by foaming the film.

The base film 22 has metallisation 3 in this case as well, to which printing 5 has been applied via a primer layer 4. A pattern coating of sealing lacquer 6 is applied to this printing 5 too, so that this lacquer is only present at the places needed to form and close a pack. The remaining sections are again provided with an overlacquer 7.

An application thickness of 1 to $5\ \text{g/m}^2$ is specified for the overlacquer 7; this thickness can vary between 0.1 and $15\ \text{g/m}^2$ according to requirements and is adapted to the thickness of the sealing lacquer 6 that is applied.

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The side of the base film 22 facing away from the metallisation can - as the illustration shows - be provided with another coating 8, in order to achieve further barrier properties.

A PET film can be used as the base film instead of a polypropylene film.

Claims

1. Plastic film (1, 21), especially for packaging three-dimensional objects such as soup cubes in particular, with a base film (2, 22) made from a polyolefin or polyethylene terephthalate that is preferably metallised on one side, **wherein** an oriented polypropylene film, preferably a biaxially oriented polypropylene film or a PET film, is provided as the base film (2, 22), on one side of which, preferably the side with the metallisation (3), printing (5) is provided, to which in turn a pattern coating of a sealing lacquer (6) that seals at a raised temperature is applied.
2. Plastic film according to claim 1, **wherein** the areas of the printing (5) to which the sealing lacquer (6) is not applied are provided with an overlacquer (7) that is also pattern coated.
3. Plastic film according to claim 1 or 2, **wherein** a primer and / or tie layer (4) is provided between the metallisation (3) and the printing (5).
4. Plastic film according to one of claims 1, 2 or 3, **wherein** a compact film is provided as the base film (2).

5. Plastic film according to one of claims 1, 2 or 3, **wherein** a film with cavities in it is provided as the base film (22).
6. Plastic film according to claim 5, **wherein** the cavities take the form of vacuoles that are produced when the film is oriented.
7. Plastic film according to claim 5, **wherein** the cavities are produced by foaming.
8. Plastic film according to claim 4, **wherein** the compact base film (2) has a thickness of about 10 to 100 μ , preferably 20 to 50 μ and in particular 28 to 32 μ .
9. Plastic film according to claim 5, **wherein** the base film (22) with cavities in it has a thickness of about 10 to 100 μ , preferably 20 to 50 μ and in particular 35 to 40 μ .
10. Plastic film according to one of the previous claims, **wherein** the side of the base film (2, 22) facing away from the printing (5) that is located preferably on the inside is provided with at least one further layer (8).

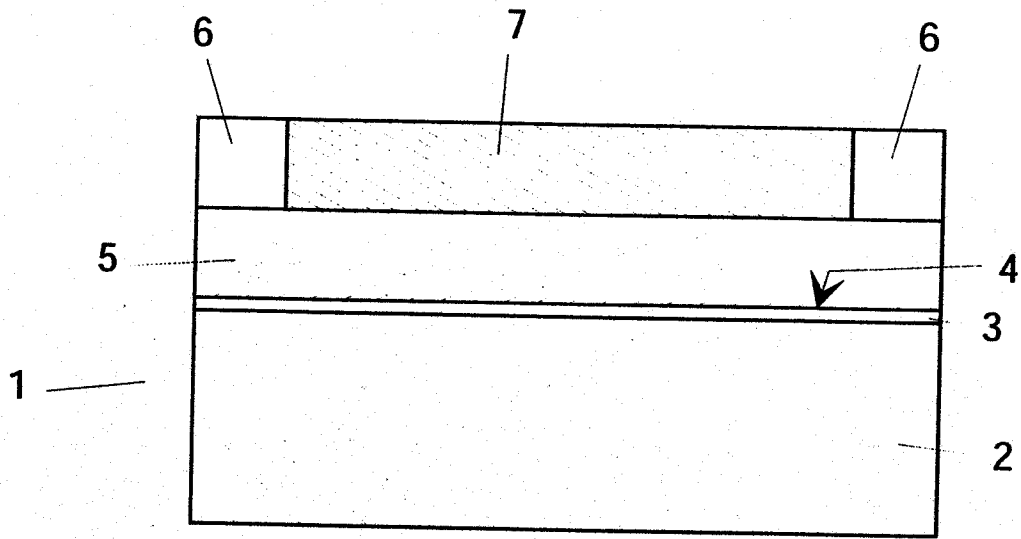


Fig. 1

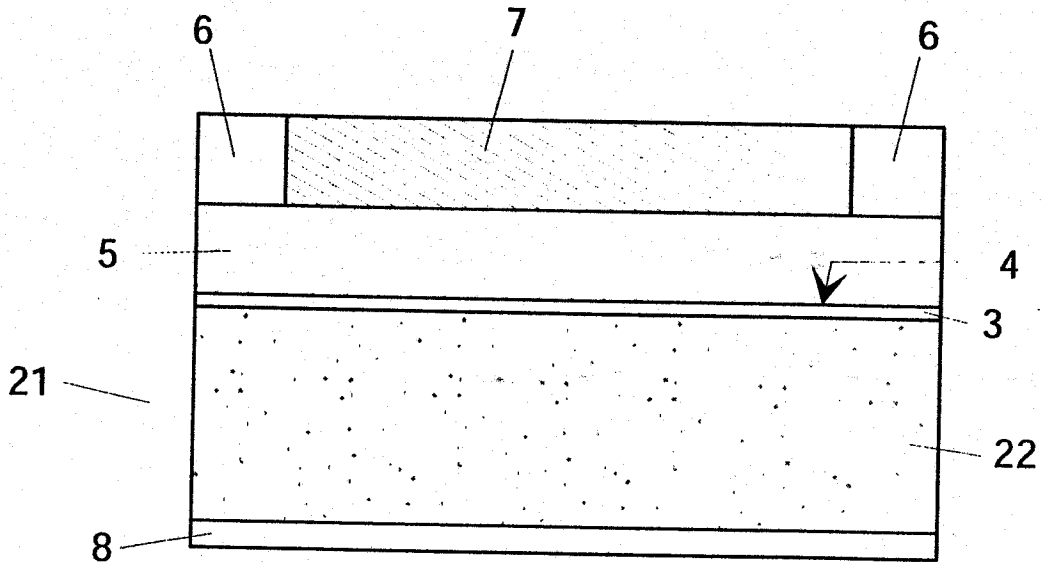


Fig. 2