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(11) **EP 0 599 789 B2**

(12) **NEW EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention
of the opposition decision:
18.12.2002 Bulletin 2002/51

(51) Int Cl.7: **B65H 75/10**, B65H 18/28

(45) Mention of the grant of the patent:
05.11.1997 Bulletin 1997/45

(21) Application number: **93830466.4**

(22) Date of filing: **24.11.1993**

(54) **Roll of self-adhesive tape made from plastic or equivalent film, wound on a tubular core of reduced diameter**

Rolle von Selbstklebeband aus Plastik oder äquivalentem Film, gewickelt auf einem röhrenförmigen Kern mit reduziertem Durchmesser

Rouleau de ruban auto-adhésif en plastique ou film équivalent enroulé sur un noyau tubulaire à diamètre réduit

(84) Designated Contracting States:
AT BE CH DE DK ES FR GB LI NL PT SE

(30) Priority: **24.11.1992 IT FI920148 U**

(43) Date of publication of application:
01.06.1994 Bulletin 1994/22

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(56) References cited:
CA-A- 1 059 095 **US-A- 4 783 015**
US-A- 4 907 696

- DIN 40631 from January 1968 (Selbstklebende Isolierbänder)
- AFERA Standard 3130 from 26-10-1960
- AFERA Standard 3100 from 26-10-1960

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Description

[0001] The invention relates to a roll of self-adhesive tape made from plastic or equivalent film for packing and other purposes, according to the preamble of claim 1. Such a roll is produced and traded under the name "Scotch Brand 3M TM Mailing tape".

[0002] The forms in which these plastic films are currently presented for use in the home or office, or for use in workshops and factories for taping up cardboard packaging boxes by hand, have the self-adhesive film wound on cores, usually of board, with tape widths generally of from 35 to 80 mm and tape lengths of around 35 to 130 m and with the tubular core having a diameter of around 3 inches, that is approximately 75 mm, while the external diameter of the finished article, that is with the plastic film wound on the core, is around 12 cm. Figs 1 and 2 show on a scale of 1:1, i.e. actual size, two known rolls of this type for shorter lengths and longer lengths of tape respectively.

[0003] This known kind of roll has considerable disadvantages. In particular there is a considerable space requirement in view of the diameter of the core, relative to the lengths of tape wound thereon, and consequently a considerable space requirement and cost both for the material of the core (that is the ring on which the tape is wound) and for the completed roll and the packaging of these products in either single or multiple packs; consequently space requirements (and costs) of shipping and storage are also considerable and there are difficulties in respect of display space for sales purposes. So large a size in relation to the amount of plastic or equivalent film also creates an ecological problem when it comes to disposal, because of the great volumes and weights to be disposed of, both of the wrapping itself - consisting of the protective packing and of the packs in which a multiple number of single components are wrapped - and also of the very material of the core, which is relatively large owing to the great thickness and even more to the large diameter of this core; the large diameter also means that the tubular core has to be very thick in order to give it strength.

[0004] All these problems are solved by a roll according to claim 1.

[0005] The result is much reduced space requirements, by as much as a third, in comparison with those of a conventional roll, and moreover the waste to be disposed of is in consequence much less than that generated by conventional types of roll. Furthermore, for the same external diameter (of around 120 mm) a roll of tape can be prepared with a length of up to approximately three times that of a conventional roll.

[0006] In the drawing:

Figs 1 and 2 show two conventional rolls whose cores are approximately 75 mm, that is 3 inches, in diameter;

Figs 3, 4 and 5 in contrast show three rolls of tape

wound on tubular cores whose diameter is approximately 38.2 mm and in which the length of the tape is between 40 m to 220 m.

[0007] As can be seen in Figs 3, 4 and 5, the core is much smaller than those of the conventional rolls shown in Figs 1 and 2. The smaller diameter of the tubular core also means that the thickness of the tubular wall can be reduced without strength being reduced below that of the tubular cores of the conventional rolls shown in Figs 1 and 2. The smaller amount of material and the smaller dimension of the core illustrated in Figs 3, 4 and 5 provide a reduction in costs and a great reduction in space requirements for the same amount of tape wound on the core, or less total space requirements and a smaller amount of materials for the various single and multiple packs of the products produced in this way.

[0008] The smaller amount of materials of both the tubular core and the completed roll provides a solution that creates few difficulties for disposal and from the ecological point of view, and also creates a lesser problem from the point of view of space requirements during storage and shipping, with consequent yet further reductions in costs, as well as a lesser problem with regard to the space taken up in premises and areas of display.

[0009] The use of individual rolls is also more convenient owing to the smaller size of the roll made according to Figs 3, 4 and 5 when compared with conventional rolls.

[0010] If Figs 2 and 5 are compared it will be seen that a very large amount of self-adhesive plastic film can be contained in the same amount of overall space in a roll as shown in Fig. 5 compared with that shown in Fig. 2. In practice around 1.5 to 3 times the length of packed film can be achieved within an equivalent final volume.

[0011] If Figs 1 and 3 are compared, it will be observed that for an equivalent length of plastic film the roll shown in Fig. 3 according to the invention is much smaller than that shown in Fig. 1, while holding the same amount of plastic film.

[0012] A comparison furthermore of Figs 2 and 4 leads to the same conclusion, namely that a smaller volume can be achieved for the same amount of wound plastic film.

[0013] The use of tubular rods of small diameters to produce the tubular cores on the principles of the present invention, i.e. according to Figs 3, 4 and 5, as opposed to the use of rods for making cores like the conventional ones shown in Figs 1 and 2, affords great convenience and a great cost saving as far as disposal of the cores and their production is concerned, and hence a greater utility of the solution according to the invention. A further advantage is that for the same deformation resistance the necessary thickness of a small-diameter core is less than for a large-diameter core.

Claims

1. Roll of self adhesive cardboard boxes packaging tape made from plastic wound on a tubular core of board or equivalent, in which the diameter of the tubular core is in the order of 38.2 mm, **characterised in that** the length of the tape is between approximately 105 m and 220 m and the external diameter of the roll is around 120 mm.
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Patentansprüche

1. Rolle von selbstklebendem Pappschachtel-Verpackungsband aus Kunststoff, das auf einen rohrförmigen Kern aus Pappe oder äquivalentem Material gewickelt ist, wobei der Durchmesser des rohrförmigen Kerns in der Größenordnung von 38,2 mm ist, **dadurch gekennzeichnet, daß** die Länge des Bandes zwischen annähernd 105 m und 220 m beträgt, und der Außendurchmesser der Rolle ungefähr 120 mm beträgt.
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Revendications

1. Rouleau de ruban auto-adhésif pour l'emballage de caisses en carton, réalisé en matière plastique, enroulé sur un mandrin tubulaire en carton ou équivalent, dans lequel le diamètre du mandrin tubulaire est de l'ordre de 38,2 mm, **caractérisé en ce que** la longueur du ruban est comprise entre environ 105 m et 220 m et le diamètre extérieur du rouleau est d'environ 120 mm.
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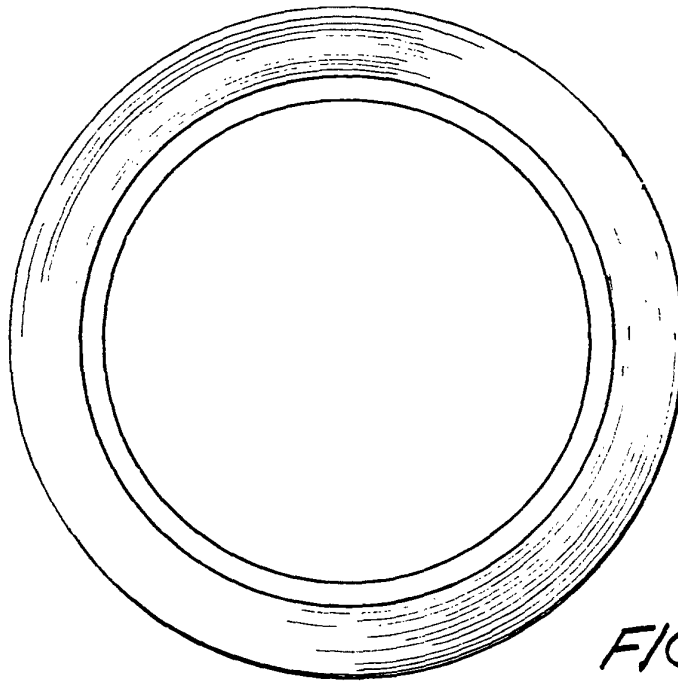


FIG. 1

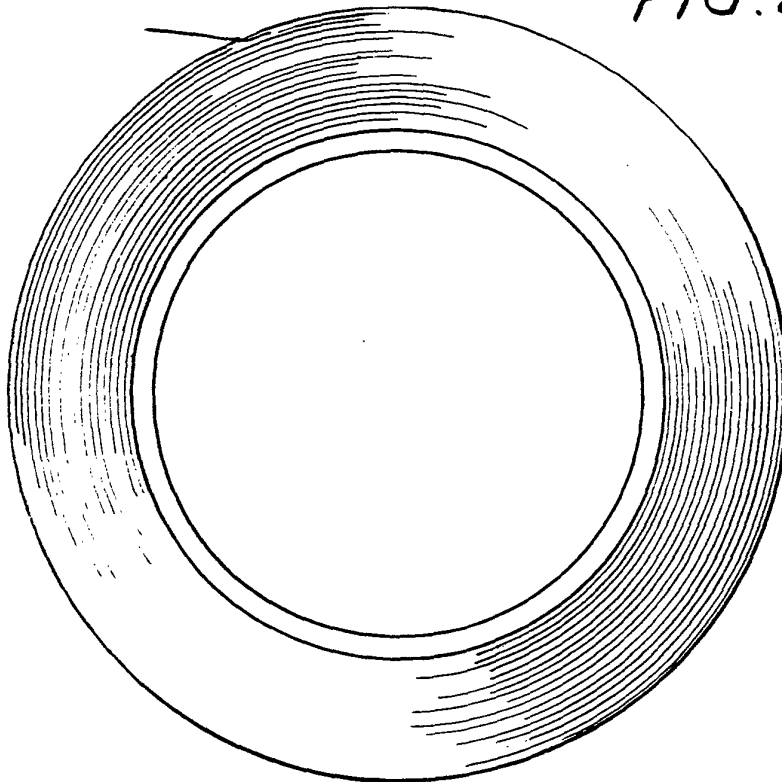


FIG. 2

FIG. 3

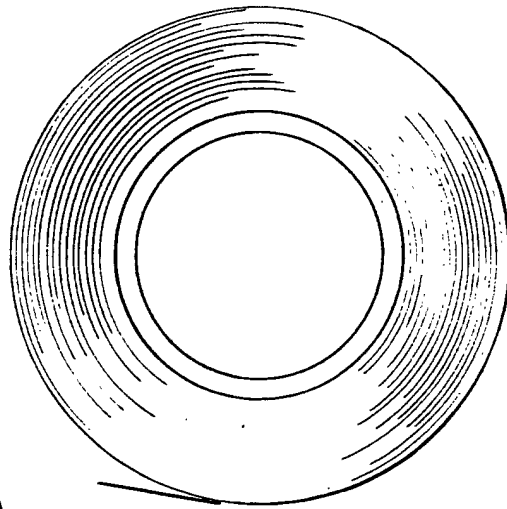


FIG. 4

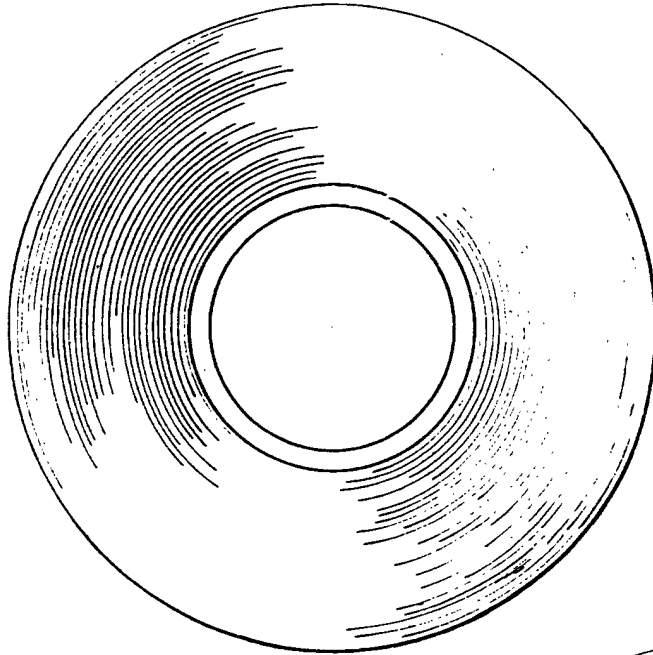


FIG. 5

