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Protective covering for articles, in particular of
rectangular parallelepiped form

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1 This invention relates to an article package or protective covering for at least one article, comprising a
5 container having base, lid and side walls, in particular, but not necessarily exclusively, of substantially rectangular, parallelepiped form, and a closure strip for such an article package or protective covering. The invention also relates to a closure strip or band and to a
10 method of packaging articles. The articles to be packaged may, for example, be cassettes in rectangular parallelepipedal containers, such as, for example, CC boxes (snap packs) for compact cassettes and cases for video cassettes.

15 Magnetic tape cassettes are usually sold in packed containers, from which the cassettes are removed for use. For compact cassettes, for example, these containers are usually two-part boxes produced from transparent plastics and comprising lid and base parts hinged together which, in
20 their closed state, offer reliable protection of the cassettes against dust deposits, scratching or other improper handling. In the case of VHS video cassettes, the container comprises a case or box open along one side and usually produced from cardboard or plastics material. These
25 containers also serve for the protected archiving of cassettes. In order to guarantee the purchaser of such cassettes the originality of the cassettes, the new cassettes have, until now, been wrapped or packed completely in a sealed plastics film by the producer. After purchase,
30 these films are removed and thrown away by the purchaser since they are torn and can no longer serve any other purpose in the protection or operation of the cassettes. This results in waste of plastics material, which, in keeping with the law on the avoidance of waste, should be
35 avoided or has to be recycled or reprocessed.

DE-U-8805045 discloses a packaging method for two or



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more cassettes in CC boxes, the individual CC boxes being packed individually in heat-sealed transparent film. The multipack comprises at least one piece of adhesive tape, by means of which two mutually opposite side faces of the at least two CC boxes are connected to each other to form a transportable stack. For separating the individual CC boxes, tear lines, in particular perforations, are provided in each instance along the parting line between two boxes.

The comments made above apply as far as the torn transparent film of the individual packs is concerned, and the part played by the adhesive tape material, which has to be removed and disposed of, is not insignificant even in the case of two packed CC boxes.

It is an object of the present invention to reduce the waste of such protective coverings, units, packs or article packages whilst retaining a means for checking the originality of the protective coverings, units, packs or article packages.

According to one aspect of the present invention there is provided a protective covering for articles as claimed in the ensuing claim 1.

To access an article contained in the container, the intermediate strip part is torn off from the outer strip parts (or side parts), along the separating lines and is detached from the container. Consequently the intermediate strip part (which typically has a size of only a few square centimeters, preferably of recyclable material, e.g. paper or film) remains the only waste since the outer strip parts remain adhered to the container walls. The closure strip therefore acts as a tamper-evident strip which, if fractured, shows that the container has been previously accessed. This is not important after purchase of the article but is important prior to purchase to indicate that the article has not been previously accessed. Consequently the originality, or loss of originality of an article

package can be recognised immediately.

5 In the case of a protective covering where the container is a hinged-lid container, in particular for rectangular parallelepipedal bodies and in particular for cassettes, the bonding or adhesive strip should be arranged in the transverse direction over the dividing line of the hinged lid, and the central part of the bonding or adhesive strip should have one dimension of approximately the height of the container.

10 Consequently, one of the parting or separating lines, as a limitation of the central part, lies in the vicinity of the dividing line of the hinged lid, so that after removal of the central part the hinged lid can be gripped by hand and can be swivelled for removal of the
15 article, in particular the rectangular parallelepipedal body or the cassette.

In a development of the protective covering design outlined above, in the case of containers having a depressed grip on the long narrow side of the con-
20 tainer, at the edge of which the dividing line of the hinged lid is also arranged, the width of the central part may be equal to or greater than the height of the depressed grip.

25 After separating the central part, it not being at all necessary here to detach it from the container, the depressed grip itself is consequently freed from parts of the bonding or adhesive strip.

In a further development of a protective covering with a container as a hollow body, in particular a hollow
30 rectangular parallelepiped, with one open side for rectangular parallelepipedal bodies, in particular for video cassettes, the open side is at least partially adhesively covered by means of the bonding or adhesive strip and the central part of the bonding or adhesive
35 strip corresponds in one of its dimensions, in particular its width, to the height of the open side of the hollow rectangular parallelepiped.



Consequently, a closure of the open container side, and therefore a protection of the exposed side of the rectangular parallelepipedal body or the video cassette, is achieved by simple means.

5 According to the invention, the separating lines are designed as perforation or tear lines, it being advantageously possible to provide incisions at their beginning and end to facilitate gripping and tearing.

10 The closure strip for a container, in particular for a rectangular parallelepipedal container, is designed according to the invention as an at least three-part bonding or adhesive strip, the central part of the strip having at least one dimension corresponding at most to the height of the container to be packed.

15 The three-part bonding or adhesive strip may be designed both unsymmetrically and symmetrically with respect to its central part.

20 A multiplicity of closure strips may be produced in series in the form of a chain or band, the individual closure strips being cut off in the region between the parting lines.

25 A protective covering unit for articles, comprising a plurality of uniform separate containers stacked one on top of the other, each thereof having base, lid and side walls and at least one open side or a parting join for opening the container, the containers being connected to one another on at least one non-open side, or a side on which there is a parting line, by means of at least one closure strip, is defined according to the invention by the features that the at least one closure strip comprises a plurality of individual parts of a bonding or adhesive strip which are separably joined together by means of parting lines which are not arranged over the parting lines of the stacked containers, so that
30 the central part arranged above the parting lines is detachable from the adjacent containers and this central
35 part has at least one dimension which is less than twice



the container height.

Consequently, apart from the advantageous saving of a great part of the packaging material of such a pack, a permanent check on the originality is obtained, determined by whether the central part is still present or has been separated and detached. In an advantageous embodiment two closure strips could be used round the vertical edges of two or more horizontally stacked containers.

The bonding or adhesive strip may expediently be provided on one side with a heat-sealing or contact adhesive either over its full area or distributed over its entire area.

In order that the detachability of the central part is ensured, if a contact adhesive is used there may consequently be a depressed grip, to the size of which the central part is adapted, or if a heat-sealing adhesive is used the central part is hollowed out during heat sealing.

It is also possible, however, that the bonding or adhesive strip is provided with a contact or heat-sealing adhesive only on the side parts and not on the central parts, so that the detachability is in any case ensured, since no adhering operation at all was able to take place.

Exemplary embodiments of the invention are described below and represented in the drawing in which:

Figure 1 shows a CC box for a compact cassette with a first closure strip design

Figure 2 shows an alternative closure strip design

Figure 3 shows a video cassette case with a similar closure strip design as in Figure 1

Figure 4 shows a closure strip band before cutting into individual strips

Figure 5 shows a container pack unit with a closure strip.

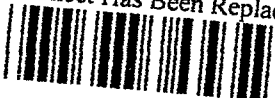
Figure 6 shows a container pack unit with another version of closure strips.



Figure 1 shows the side view of a CC box or snap pack 1 as a container for a compact cassette with a view of the base part wall 2 and the pocket wall 3 of the lid part 4. Approximately in the centre of the container narrow side 9 there is an elongate depressed grip 6, which extends in its width A approximately over half the height h of the same narrow side 9.

Fastened transversely over the container narrow side 9 is a closure strip 5, which reaches from the base part wall 2 to the lid part 4 and is designed as a bonding or adhesive strip of any suitable type. The closure strip 5 covers the dividing join or line F between lid part 4 and narrow side 9. The closure strip 5 comprises a central part 10, a first side part 8 on the base part wall and a second side part 7 on the wall of the lid part 4, which wall is not visible in this representation. The central part 10 is separably connected by means of the parting lines 11 and 12, for example perforations or tear lines or some other type, to the side parts 7 and 8. The triangular symbols represent gripping zones of the closure strip 5 and of the further closure strips. If one of these gripping zones is grasped with fingers and pulled up, the central part 10 is torn off to release the depressed grip 6 and the lid part 4 is swivelled in the opening direction. Thereafter, the article which is in the CC box container 1 and does not necessarily have to be rectangular-parallelepipedal, but may be, as is the case with a cassette which is not represented here.

The length and width B of the closure strip 5 and of the closure strips still to be described are chosen such that, with as little expenditure on material as possible, the desired closure function and recognizability of the existent or non-existent originality of the pack are achieved, with at the same time minimal waste material after opening of the pack. In the example in Figure 1, the width b of the central part 10 is



governed by the width A of the depressed grip 6, to the extent that the width b should satisfy $b \geq A$, in order that, after tearing off the central part 10, as far as possible no protruding edges of the parting lines 10 and 11 in the depressed grip 6 can hinder the opening operation. The side parts 7 and 8 remain bonded or adhesively fixed on the wall of the lid part 4 and on the base part wall 2, respectively, so that the lack of originality can be recognized immediately.

10 If there is no depressed grip 6, the width b of the central part may correspond at most to the height h of the narrow side 9, $b \leq h$.

In the case of $b \sim \frac{1}{2}h - A$, the side part 8 has a greater length than the side part 7. In the design represented, the side parts 7 and 8 are consequently designed non-symmetrically with respect to the central part 10. In the case of $b \sim h$, there is approximate symmetry with respect to the central part 10.

20 The example of the pack in Figure 1 was implemented in practice. In the case of a CC box container 1 with depressed grip 6 having a depressed grip area of $A=7\text{mm}$ width and $L=32\text{mm}$ length and a width of the closure strip of about $B=30\text{mm}$, there was waste amounting to the size of the area of the central part 10 of 2.1 cm^2 .

25 Figure 2 shows a hollow rectangular-parallelepipedal case 16 in side view, the opening of which, open side 13, is covered completely and in a dustproof manner by a closure strip 17 according to the invention. The central part 10 A has approximately a width $bA \leq H$, corresponding to the thickness or height H of the case 16. The widths of the side parts 7A and 8A have been chosen to be narrow, for the purpose of saving material. The separating lines are 11 A and 12 A. The central part 10 A has approximately the size of 48 cm^2 , which is the only waste. In the case of this design, it is advantageous that all other additional covering or wrapping cartons etc. can be dispensed with.



In principal it is also the case with the CC box 1 of Figure 1 that, if there is no depressed grip 6, a long closure band corresponding to the closure strip 17 could be used. The corresponding central part waste area would then be about 17 cm².

Figure 3 shows a case 16 with a video cassette 18 in it and with a closure strip 19, which has a central part 10B, side parts 8B and 7B, and separating lines 11B and 12B. Incisions 14A, B and 15A, B at the beginning and end, respectively, of the central part 10B

facilitate grasping of the central part 10B. The incisions 14 and 15 are provided in each case at the beginning and at the end of the separating lines 11B and 12B, but they may also be provided at the separating lines 11 and 12 of Figure 1, as indicated by arrows and at the separating lines 11A and 12A of Figure 2.

Figure 4 shows as an example the closure strip 19 from Figure 3 produced as a continuous band 20. Parting lines 11B and 12B are prepunched, as are the gripping incisions 14 A, B and 15 A, B. Before the closure strips 19 are applied to the packs, the band 20 is cut up at the cutting points S, that is in each case between the separating lines 11B and 12B, so that the individual closure strips 19 are produced. Each design of closure strips of the type which come into consideration here, for example 5, 17 and 23, can similarly be produced and processed in band form.

In Figure 5 a stack 21, comprising five individual rectangular parallelepipedal containers 22, is connected to form a protective covering unit by means of a bonding or adhesive strip 23, which in this case is formed by four central parts 10C and side parts 7C and 8C with parting lines 11C, 12C. The width D of the central parts is to be less than twice the container height $H : D < 2H$, in order that even after removing each of the central parts 10C the respective side parts remain on the container narrow sides 24 as a visible indication of the



loss of originality of the protective covering unit. This is the case if the detachable central part 10C is not arranged in such a way that the parting lines 11C, 12C come to lie congruently over the parting lines 26, but
5 the central part 10C in any case covers the parting join 26.

In Figure 6 such an embodiment is shown in which around the remote vertical edges of the pack unit bonding or adhesive strips 23 or 23' respectively are arranged
10 which serve only as closure or connecting means of at least two containers 22. At least one of the ends of the central part 10C can be provided with a tearing-nose 28. The length of the strips 23 corresponds to the form and weight of the containers 22 including the articles packed
15 therein, so that the connecting function is obtained.

It goes without saying that on the remote side of the stack 21 a different type of stack connection, for example a single adhesive strip without any parting lines, may also be provided there.

Correspondingly to the closure strips 19, closure strips 27 are provided over the open sides or parting lines of the long narrow sides 25 of the individual containers 22.
20

The closure strips of the present invention are bonding or adhesive strips which are provided on one side
25 with a heat-sealable adhesive or a contact adhesive either over their full area, parts 10, 7 and 8, or over part of their area, for example only parts 7 and 8.

The contact or heat-sealing adhesive is to be of such a composition that the bonding or adhesive connections produced by it between the strip material to be
30 adhesively fixed and the container material are inseparable without applying force. An example of a suitable contact adhesive is the polyurethane adhesive PEX 759 of Messrs Raflatac, Finland, and examples of suitable heat-
35 sealing adhesives are hot-curing phenolic, melamine or urea resins or epoxy resins or adhesive dispersions or

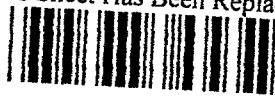


coatings.

An environmentally appropriate protective covering for articles, in particular rectangular parallelepipedal bodies, comprises a container receiving the article or rectangular
5 parallelepipedal body, which is closed by means of an at least three-part, separable closure strip. For opening, the central (or intermediate) part is separated from the outer (or side) parts, which remain adhered on the container. The presence or absence of the central or intermediate part
10 consequently represents an indication of originality. The invention can be used advantageously in any application where one closure strip can be used to economise on further and other packaging materials. It will be appreciated that the closure strip described constitutes a tamper-evident
15 strip, fracture of which will show that the packaged container has been previously opened or accessed. This is important prior to a packaged article being purchased to represent an indication of originality. After purchase and removal of the intermediate part of the strip, the remaining
20 adhered outer parts of the closure strip should not interfere with subsequent opening or accessing of the container.

By way of example, only three-part closure strips have been described. However, it goes without saying that
25 designs comprising more parts can similarly be used with advantage.





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CLAIMS

1. A protective covering for articles comprising a container having base and lid walls and side walls and a closure strip bonded or adhered to the container to prevent, without fracture of the strip, access to an article in the container, the strip comprising an intermediate part between spaced apart outer parts, said strip parts being separated by separating lines, the intermediate part of the strip being detachable from the rest of the strip and the container to enable an article in the container to be subsequently accessed and having at least one dimension which corresponds at most to the container height.

2. A protective covering according to claim 1, in which the said strip comprises a tamper-evident strip.

3. A protective covering according to claim 1 or 2, in which the said intermediate part of the strip is not adhered to the container.

4. A protective covering according to any of the preceding claims, in which the container comprises a hinged lid container having relatively hinged parts, in particular for generally rectangular parallelepipedal articles, and wherein the said strip is arranged over a separating line separating the hinged parts of the container whilst the intermediate part of the strip remains attached.

5. A protective covering according to any of the preceding claims, in which the container has a depressed grip portion on one of its side walls for facilitating opening of the container, the width of the said intermediate part being equal to, or slightly greater than, the width of the depressed grip portion.

6. A protective covering according to any of claims 1 to 3, in which the container comprises a hollow body, in particular a hollow rectangular parallelepiped with one open



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side, and in which the said strip at least partially covers said open side, the said intermediate part corresponding in one dimension, e.g. its width, to the height of the open side of the container.

5 7. A protective covering according to any of the preceding claims, in which the said separating lines comprise lines of weakness.

8. A protective covering according to to any of the preceding claims, in which the separating lines comprise
10 perforation or tear lines.

9. A protective covering according to any of the preceding claims, in which incisions or cutouts are provided at opposite ends of each of said separating lines to facilitate tearing detachment of the intermediate part from
15 the rest of the strip.

10. A closure strip for closing an article container having base and lid walls and side walls, the strip being intended to be positioned either to at least partly close an open side of a non-hinged container or to prevent, without
20 fracture of the strip, hinged opening of a hinged container, the closure strip having adhesive on one side and being provided with spaced apart separating lines, defining an intermediate strip part, which are spaced apart at most a distance corresponding to the height of the container, the
25 intermediate part being separable from the rest of the strip along said separating lines.

11. A closure strip for a container protective covering according to any of claims 1 to 9, in which the strip has at least three parts including an intermediate part separable
30 from the rest of the strip by spaced apart separating lines, the intermediate part having a dimension corresponding at most to the height of the container to be packed.

12. A closure strip according to claim 10 or 11, in



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which the intermediate strip part is positioned unsymmetrically with respect to outer strip parts on either side of the intermediate strip part.

13. A closure strip according to claim 10 or 11, in
5 which the intermediate strip part is positioned symmetrically with respect to outer strip parts on either side of the intermediate strip part.

14. A closure band comprising a multiplicity of individual closure strips, each according to any of claims
10 10 to 13, joined together to form a series of joined together closure strips.

15. A method of forming closure strips by cutting a closure band, according to claim 14, in regions between adjacent separating lines of adjacent closure strips.

15 16. A protective covering unit for articles, comprising at least two uniform separate containers stacked one on top of the other with parting lines between the or each adjacent pair of stacked containers, each container having base, lid and side walls and either at least one open side or an
20 opening line separating hinged parts of the container, the containers being connected to one another on at least one open side, or a side on which there is a parting line, by at least one closure band bonded or adhered to the container stack, the or each closure band having at least one pair of
25 spaced apart separating lines positioned on opposite sides of the or each of the parting lines between adjacent containers in the container stack, the or each pair of separating lines defining an intermediate strip part which is separable from the rest of the strip along the separating
30 lines of its associated pair, the or each intermediate part being arranged over a corresponding parting line and having at least one dimension which is less than twice the height of each container.

17. A protective covering unit according to claim 16,





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in which two closure bands are provided around each of the two vertical edges located furthest from the open side of the container stack.

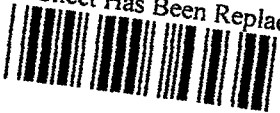
18. An article package comprising a container
5 containing at least one article and having base, lid and side walls and a tamper evident closure strip attached to the container, the closure strip having an intermediate part separated by separating lines from spaced apart outer parts of the strip which are adhered to the container, the
10 intermediate strip being detachable from the rest of the closure strip by separating it along said separating lines to allow access to the article(s) in the container, the intermediate part having at least one dimension no greater than the height of the container between its base and lid
15 walls, the separation of said intermediate part from the rest of the strip indicating prior access to the container.

19. A method of packaging at least one article in a container comprising adhering a tamper evident strip to the container to prevent access to the at least one article
20 without fracturing the strip, the strip having a separable intermediate part separable from the rest of the strip along spaced apart separating lines to enable access to the at least one article.

20. An article package or a protective covering for
25 articles, comprising a container having base and lid walls and side walls, in particular of rectangular parallelepiped form, wherein the container is closed on a side at which it can be opened or accessed for removal of at least one article in the container by an at least three-part bonding
30 or adhesive closure strip which can be separated by separating lines, an intermediate or central part of the strip being detachable from the container and having at least one dimension (b) no greater than the container height (h,H).



This Sheet Has Been Replaced



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21. An article package or a protective covering for articles substantially as hereinbefore described with reference to, and as illustrated in, Figures 1, 2, 3 and 4, 5 or 6 of the accompanying drawings.

5 22. A closure strip for an article package substantially as hereinbefore described with reference to, and as illustrated in, Figures 1, 2, 3 and 4, 5 or 6 of the accompanying drawings.



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