

This Sheet Has Been Replaced

- 1 -



PROTECTIVE CONTAINER FOR SUBSTANTIALLY
PARALLELEPIPEDAL BODIES

This invention relates to a protective container for a substantially parallelepipedal body, in particular, but not
5 exclusively, a cassette, the protective container being of the kind comprising a case of substantially parallelepipedal shape which has an open side through which the body can be inserted and withdrawn, bottom and top walls and long and short side walls, and a separate case part for closing the said open side
10 of the case.

A protective container with packaging for a video cassette is already known, in which the cassette is contained in a hollow parallelepipedal case which is open at one side. A wrapping card is used as a means of packaging to envelop the
15 cassette along its longitudinal sides, so that its short width sides remain free. The cassette is closed off from the outside on its open longitudinal side by the wrapping card. The various sides of the covering box serve for the provision of labels for the cassette and for notes on the content of the
20 cassette. The length of the folded-open wrapping card corresponds to three times the width of the cassette plus two times the width of the narrow sides of the cassette. Moreover, this known protective container is also surrounded by a transparent film wrap as a further means of packaging.

25 It is an object of the present invention to provide a protective container for substantially parallelepipedal bodies, in particular cassettes, which is of a material-saving and environmentally friendly design.

We have found that this object is achieved by a
30 protective container of the kind referred to if the separate case part has in cross-section at least partially the shape of a channel at least in its closing position.

The object is also achieved if the separate case part has

THIS SHEET HAS BEEN
REPLACED



substantially the shape of a channel throughout its length.

The sides of the body contained in the protective container are at least partially covered on either side of the open side. The separate case part ensures closure of the
5 container to prevent ingress of dirt and dust with little expenditure on material.

In an expedient design, the folded-open length of the channel-shaped, e.g. U-shaped, case part suitably corresponds at least approximately to the width of the bottom or top wall
10 of the case. Consequently, the flat case part can be inserted into the case without protruding therefrom. It goes without saying that the flat case part may have space for notes.

DE-A-4042103 also discloses a case for a video cassette in which there is provided a closure strip or tab which
15 engages over an insertion opening, serves as an original closure, is connected to the side parts of the case and can be separated at least on one side by means of a line of weakness to enable removal of the cassette. The principal purpose of this case design is to reduce expenditure on
20 production and packaging, so that at the insertion opening, the rear side of the cassette is open without any protective covering apart from the closure tab.

As described above, it is an object of the present invention to achieve a covering of the rear side of the
25 cassette in a simple way, so that even in the case of an originality closure there is no need to dispense with the channel- or U-shaped covering.

The case and the channel- or U-shaped case part may advantageously be connected by means of at least one closure
30 strip. This achieves closure of the protective container thereby preventing the parallelepipedal body from falling out of the case or the case opening unintentionally. If the closure strip is a part which can be easily separated, in



particular by means of a line of weakness such as a perforated line, from the bottom or top wall, the same makes it possible to preserve the original state or the originality of the product located in the protective container, for example a
5 cassette, until opening of the closure and, for example, separating of the closure part from the case, and makes it possible to indicate the loss of originality.

The closure strip may expediently fill or cover gripping clearances or recesses formed in the bottom and top walls of
10 the case. Consequently, a combined production of the closure strip, partially combined with a gripping clearance, is possible.

The closure strip may also be an at least partially adhesively attachable, separate part of the packaging, for
15 example an adhesive strip.

It is expedient and environmentally favourable if the case is produced from cardboard material with a coating of a printable dispersion varnish without metal particles, which in particular is water-soluble. The cardboard material may
20 also be provided with a UV-varnish coating. Alternatively, the case may consist only of unvarnished cardboard material and may also be provided with a self-adhesive layer on one side to be able to fulfil labelling purposes.

A separate adhesively attachable closure strip may also
25 be arranged in a cut-out of the channel- or U-shaped case part.

It is favourable in terms of handling and production if the channel-shaped case has cut-outs in its sides for facilitating the insertion and removal of the parallelepipedal
30 body.

For complete covering of the open container side, the channel-shaped case part may have continuations on its portion



- 4 -

for closing the long open side wall of the container.

The configuration with an at least partial channel-shaped case part may be designed substantially in the form of a strip with lateral continuations for engaging in or covering over 5 gripping clearances in the case walls. The ends of the strip may be configured additionally with continuations for the short side walls of the case.

Embodiments of the invention will now be described, by way of example only, with particular reference to the 10 accompanying drawings, in which:

Figures 1A-1C show a video cassette and a protective container according to the invention in an exploded representation;

Figure 1D is a perspective view of the protective 15 container according to Figures 1A and 1C in a closed condition;

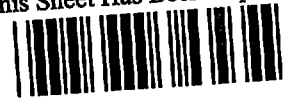
Figures 2A and 2B are perspective views of alternative embodiments of protective containers according to the invention in an open condition;

20 Figures 3 and 4 are perspective views of further versions of the protective container according to Figure 1D;

Figure 5 is a view of a channel-shaped or U-shaped case part folded into the plane of the page; and

Figures 6A-D show a further embodiment of a protective 25 case part according to the invention.

Figure 1B shows a commercially available video cassette 5 of substantially parallelepipedal form. A case 6 in Figure 1C is of slightly larger parallelepipedal shape and has an open side 7. If the cassette 5 is located in the case 6, one



longitudinal wall of the cassette, for example wall 8, is not protected by the case 6. In order to protect this cassette wall 8, a channel-shaped case part 9 (see Figure 1A) serves as a cover. In particular side part S1 of the case part is pushed between the cassette 5 and a bottom wall 10 of the case and side part S2 is pushed between the cassette 5 and a top wall 11 of the case, a longitudinal part M of the case part covering the open side 7 of the case. In this covering position, the cross-section of the case part 9 is of a channel shape (hereafter referred to as a "U-shape") with the side parts S1 and S2, in spaced-apart parallel relationship each disposed at right angles to the "bottom" part M.

The side parts S1 and S2 expediently have dimensions L1 and L2, respectively, and the central part suitably has a dimension L3, the longitudinal extent 1 of the case part 9 being chosen to correspond approximately to the length of the open side 7 of the case in order to ensure that the cassette wall 8 is covered when the case part 9 is positioned in its closure position as described above. The sum ($L1 + L2 + L3$) of the dimensions L1, L2 and L3 gives the width B1 of the case part 9 when opened up flat which expediently either corresponds approximately to the case width B (i.e. $B1 \sim B$) or is less than the case width B (i.e. $B1 < B$). The dimension B1 is shown in Figure 1C in which only a part of the case part 9 is shown in folded-open form. The purpose of the dimensioning described above is to enable the case part 9 to be placed in a flat, folded-open condition in the case 6 as an insert sheet, for example for documentation of the content of the cassette, after the case 6 has been opened.

The case 6 is conveniently designed with two gripping cut-outs 12A and 12B in the top and bottom walls 11 and 10, respectively, which lie opposite each other on opposite sides of the open side 7. In this example, the gripping cut-out 12B is closed by a closure strip 13, formed for example from the material of the case, which strip is conveniently formed as an extension of the bottom wall 10 with a line of weakness,



- 6 -

e.g. a perforated line 14 defining the outline of the gripping cut-out 12B. The front part 13A of the closure strip 13 may be provided with an adhesive substance on its rear surface so that said strip can be adhesively attached, for example into the gripping cut-out 12A. In other words when the cassette 5 is inserted into the case 6 and the case part 9 is located in its open side closing position, the strip 13 can be adhesively attached to the case part 9. After disconnecting the adhesively connected strip 13 from the case part 9 and tearing the strip 13 along the line 14, reclosing is no longer possible and the loss of originality of the packaged cassette 5 can be clearly recognised from this alone.

It is also possible to provide on both sides in the gripping cut-outs 12A and 12B, as shown, trapezoidal or semicircular material segments of the case material which can be detached along lines of weakness, e.g. perforations, either together with the closure strip or independently of it. A closure strip of any desired material (see below) may, for example, also be undetachably connected to both segments, so that, upon opening the closure strip, both segments break out with it. In both cases, the loss of originality of the protective container can be detected immediately, even better than described above, and cannot be readily restored.

Instead of forming the closure strip or the closure tab from the material of the case, a label with the same function may also be used.

The closure strip or the label may be completely or partially self-adhesive or not self-adhesive. In the latter case, in the packing process the closure strip or the label is materially fastened by means of adhering, stapling or welding onto the perforated, non-broken-out gripping cut-out segments.

The gripping cut-outs 12A and 12B may also be provided in their finished form on the case 6, and closure strips or



- 7 -

labels may be located elsewhere, as represented in Figure 3. Closure strips or labels may be adhesively attached on the channel- or U-shaped case part 9. Alternatively they may be fixed directly on the bottom and top walls 10 and 11, 5 respectively, of the case 6. Depending on the fixing or means of fixing, such as for example an undetachable adhesive substance of the closure strip, when the protective container is opened for the first time the closure strip, or the label or the U-shaped sleeve part and/or the case 6, may be 10 irreversibly destroyed or damaged at the fastening points. The originality of the protective container may also be indicated by a band 15, cf. Figure 4, or a thread, cord or the like.

Figure 2A shows a configuration of a case 6 having a 15 generally angular, channel- or U-shaped case part 16 with a cut-out 17 at the regions of the gripping cut-outs 12A, 12B and the connecting strip (of the case part 16) in between. In this embodiment, a closure strip 13 is a component part of the case part 16 when the latter, as shown in Figure 2A, is 20 pushed partially into the case 6 (see dashed line 28).

The closure strip 13 may also be part of a tab 29 of a case 30, as shown in Figure 2B.

In the closed state of the case (of either of the configurations 2A and 2B), the closure strip is fastened in 25 the region of the gripping cut-outs 12A and 12B on the material of the container.

When the case 6 or 30 is opened, the closure strip 13 is removed, so that an incision or cut-out is produced (see Figure 2A). In this configuration, at the same time the 30 gripping cut-out segments 31A and 31B are removed along with the closure strip. This similarly applies in the case of Figure 2B, where the state in which the tab 29 is completely tucked-in (29'), and both gripping cut-outs 12A and 12B remain free due to the incision 32, is shown by dashed lines. In



Figure 2A, the chain line 33 further indicates the possibility of unfolding and inserting the case part 16 into the case. For the sake of clarity, the representation of the cut-out 17 has been omitted.

5 Figure 5 shows a laid-flat case part 18 provided with oblique contour lines 19, 20 and extensions 21 on a central part MT. The oblique lines 19 and 20 facilitate insertion of the case part 18 into the case and the extensions 21 effect a better termination of the open side 7 of the case 6. The
10 width B1 of the sleeve part 18 in turn corresponds approximately to the width B of the case 6. In principle, other contours or shapes for the case part 18 are conceivable and usable.

Figure 6 shows a further version of ways of achieving the
15 object of the invention and includes the provision of a partially channel- or U-shaped case part 22. The case part 22 has trapezoidal protrusions 23 which either mate laterally with the gripping cut-outs 12A and 12B of the case 6 or, better still, partially cover them over. The case part 22
20 also has end extensions 26, extending over the short sides 24 and 25 of the case 6. If the trapezoidal protrusions 23 are slightly larger than the gripping cut-outs 12A, 12B and can be adhered or stuck to the bottom and top walls 10, 11 of the case 6, and if the end extensions 26 can also be adhered to
25 the sides 24 and 25, the entire partially U-shaped case part 22 represents an originality closure for the finished cassette pack (shown in Figure 6D).

Other practical configurations for a partially channel- or U-shaped case part 22 are likewise conceivable, for example
30 with channel- or U-shaped extensions or protrusions 27 at least in the vicinity of, or in the upper corner regions of, the protective container, as indicated in Figure 6B by dashed lines. Such protrusions 27 may form with the end extensions 26 corner protections for the protective container or for the
35 cassette.



Printable dispersion varnishes are understood to mean printing ink based on varnish systems. For the purposes of the present invention, it is important in this respect that the ink pigments do not contain any metal particles.

5 The outsides of the container or case of all the configurations described may expediently have an abrasion-resistant varnish coating, for example a UV varnish or a water-soluble and preferably chlorine-free dispersion varnish without metal fractions. With the latter, print application
10 is particularly favourable.

An example of a suitable UV varnish is KB 7471 with Primer KB 0202 (manufactured by Knauer KG, Bieberach).

An example of a suitable dispersion varnish is KB 1380 (manufactured by Knauer KG, Bieberach).

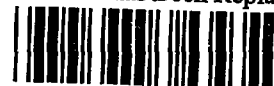
15 The paper or cardboard material of the container or case, of the channel-shaped case part and of the closure strip may advantageously be recycled or recyclable chlorine-free material.

A protective container for substantially parallelepipedal
20 bodies comprises a hollow parallelepipedal case which is open at one side and a case part covering the open side, which case part is, at least in this position, substantially channel-shaped or U-shaped in cross-section but may also have a partially channel-shaped cross-section (i.e. along part of its
25 length only). Originality closure means connect the hollow parallelepipedal case and channel-shaped case part and indicate the loss of originality after opening for the first time.

The protective container can be used for parallelepipedal
30 cassettes of all types or any other type of parallelepipedal article.



This Sheet Has Been Replaced



- 10 -

CLAIMS

1. A protective container for a substantially parallelepipedal body, in particular a cassette, comprising a case of parallelepipedal shape which has an open side 5 through which the body can be inserted and withdrawn, bottom and top walls and long and short side walls, and a separate case part for closing the said open side of the case, wherein the separate case part has, along at least part of its length, a channel-shaped cross-section at least when in its closing 10 position.

2. A container according to claim 1, wherein the separate case part is substantially channel-shaped throughout its length.

3. A container according to claim 1 or 2, wherein the 15 folded-open width of the channel-shaped case part corresponds approximately to the width of the bottom or top wall of the case.

4. A container according to claim 1, 2 or 3, wherein the case and the channel-shaped case part are connected by means 20 of a closure strip.

5. A container according to claim 4, wherein the closure strip is a part which is separable, along a line of weakness, from the bottom or top wall of the case.

6. A container according to claim 4 or 5, wherein the 25 closure strip fills, or at least covers, gripping cut-outs in the bottom and top walls of the case.

7. A container according to claim 5, wherein the closure strip is connected to the top and/or bottom wall by means of a perforated predetermined separating line in the form of a 30 gripping cut-out.

THIS SHEET HAS BEEN
REPLACED



This Sheet Has Been Replaced



- 11 -

8. A container according to claim 4, wherein the closure strip is a separate, adhesively attachable, part.

9. A container according to claim 4 or 8, wherein the closure strip is at least partly self-adhesive.

5 10. A container according to any of the preceding claims, wherein the case comprises cardboard material which is coated with a water-soluble, printable dispersion varnish without any metal particles.

11. A container according to any of claims 1 to 9,
10 wherein the channel-shaped case part comprises cardboard material without any varnish coating.

12. A container according to any of claims 1 to 9, wherein the channel-shaped case part comprises cardboard material with UV varnish coating.

15 13. A container according to any of claims 1 to 9, wherein the channel-shaped case part comprises paper or cardboard material with a self-adhesive layer on one side.

14. A container according to claim 4, wherein the closure strip is provided in a cut-out of the channel-shaped
20 case part.

15. A container according to any of claims 1 to 11, wherein the channel-shaped case part has oblique contour lines in a planar position on the short sides.

16. A container according to claim 15, wherein the
25 channel-shaped case part has extensions on the part for the long open side wall of the case.

17. A container according to claims 2 and 6, wherein the separate channel-shaped case part is of substantially strip form for covering the open case side and has lateral

THIS SHEET HAS BEEN
REPLACED



- 12 -

protrusions for engaging in or covering the gripping cut-outs in the bottom and top walls.

18. A container according to claim 17, wherein the substantially strip-shaped case part has, at the ends of the 5 strip, extensions for the short side walls of the case.

19. A protective container constructed and arranged substantially as herein described with reference to, and as illustrated in, Figures 1A-D, Figure 2A, Figure 2B, Figure 3, Figure 4, Figure 5 or Figures 6A-D.

10 20. A protective container for substantially
parallelepipedal bodies, in particular cassettes, comprising
a case of parallelepipedic shape, which has an open side for
pushing in/taking out the body and bottom and top walls as
well as long and short side walls, the open side of the case
15 being covered by means of a separate case part, wherein the
separate case part has in cross-section at least partially the
shape of a U, at least in its covering position.

This Sheet Has Been Replaced



THIS SHEET HAS BEEN
REPLACED