The present invention relates to an envelope or blank for making an envelope, wherein the envelope is specifically adapted for mailing computer readable medium such as CDs or DVDs. The envelope and blank are particularly suited for sorting using high speed sorting machinery and are characterised by a central storage region for accommodating the medium that is stiffened relative to sections of the envelope adjacent to the storage region.
ENVELOPE FOR A CD AND A BLANK THEREOF

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of Australian Patent Application No. 2008903297, filed Jun. 27, 2008, the contents of which are incorporated herein by reference.

FIELD OF THE PRESENT INVENTION

[0002] The present invention relates to envelopes and blanks suitable for mailing CDs, DVDs, BDs and other optical computer readable.

BACKGROUND OF THE PRESENT INVENTION

[0003] Packages and envelopes designed for mailing CDs, DVDs, BDs and other optical computer readable mediums fall into several categories within the postal network, namely packages and flat pieces that are hand sorted or within special flatmail sorting machinery and those shaped as normal small letter format that are adapted for sorting using high speed sorting machinery. The operating parameters under which sorting machines operate are limited and are conventionally configured or adapted for mailing standard sized envelopes.

The main characteristics that enables an envelope to pass through a sorting machine is that it is rectangular in shape, has flexible leading trailing edges that can be grasped by mechanical belts and that the envelope can travel along a curved path as the envelope works its way through the sorting machinery.

[0004] As the postal network can receive mail from a variety of sources; these include bulk mail receiving facilities where it may be with like mail pieces uniformly orientated, pre-sorted for minimum automated handling, through to completely mixed with varying sized, shaped mail pieces and envelopes in unknown random orientation.

[0005] The labour costs associated with hand sorting packages is a factor in mailing packages that can not be sorted and processed using sorting machinery and as result, the cost of mailing computer readable media including optical, magnetic and memory media such as CDs, DVDs, memory devices and alike products using packages that are hand sorted are significantly greater than the costs for mailing envelopes sorted by high speed sorting machinery.

[0006] Similarly packages that cannot be automated through letter orientated machinery may get passed up to a flat mail sorter, which is more expensive to own and operate.

[0007] It is an object of the present invention to provide an envelope suitable for mailing computer readable medium that can be sorted using high speed sorting machinery.

SUMMARY OF THE INVENTION

[0008] The present invention is based on the realisation that envelopes containing a CD, DVD, BD or alike computer readable medium, typically made from polycarbonate, and other polymeric materials can be sorted using high speed sorting machinery if the stiffness characteristics vary across the length of the envelope. In particular, we have found that an envelope having a stiffened storage region for accommodating the media that is flanked by more flexible side regions can be handled automatically by high speed sorting machinery and some mail inserters and metering equipment.

[0009] The stiffness of the storage region is necessary to provide adequate protection against point load, small radius bending loading and impact loads that are generated within the automated mail processing that otherwise damage the media therein.

[0010] The remaining body of the envelope extending beyond the storage region of the envelope is more flexible and enables it to enter negotiate elements of the automated mail machinery that are designed for the characteristics of common small letter mail.

[0011] Specifically, according to the present invention there is provided an envelope or mail piece adapted for mailing a computer readable medium such as CDs, BDs or DVDs, the envelope having a front panel, a back panel, an openable flap that overlaps at least part of the front panel when closed and four edges in the form of two opposite side edges, a bottom edge and an upper edge, the upper edge being formed by a first fold line at a junction of the back panel and the openable flap, the bottom edge being formed by a second fold line at a junction of the front panel and back panel, and the envelope having a storage region that can accommodate computer readable media that is flanked by side regions, the side regions containing or abutting the two side edges, and wherein the storage region has a stiffness that is greater than the stiffness of at least one or both of the side regions.

[0012] The term “stiffness” as used herein refers to the flexibility, rigidity or the ability to bend the envelope itself, that is, without any ancillary material such as CDs or letters inserted into the envelope. A benefit of the envelope of the present invention is that the envelope has increased inherent stiffness in the region in which the disc media can be placed and stored in the envelope to prevent damage to the media.

[0013] In addition, the terms front panel, back panel or openable flap equally represent sections of the envelope on which the address to which the envelope may be sent can be placed.

[0014] Although the stiffness may be assessed in a direction between the upper and bottom edges, suitably the stiffness of the storage region and the side region(s) of the envelope is evaluated by loads applied in a longitudinal direction between the side edges of the envelope.

[0015] Overall the envelope or mail piece may have a stiffness in the longitudinal direction sufficient to prevent the side regions from bending locally adjacent the media or stifler storage region when enduring loading generated at the gate mechanisms of automated mail sorting machinery and the deceleration load created when the envelope arrives in the sorting bin.

[0016] Suitably, the envelope withstands loads up to 1500 gms in a longitudinal direction, from one side edge to another side edge, without substantial bending of the envelope transverse to the longitudinal direction of the envelope. More suitably, the envelope can withstand loads up to 1200 gms and even more suitably, the envelope will withstand loads in the range of 700 to 1000 gms. This characteristic of the envelope is without media in the envelope.

[0017] Suitably the envelope includes a stiffening element or formation in the storage region or aligns with the storage region. Suitably, the stiffening element or formation includes one or more crease, rib, flange, or insert that is incorporated or fixed to the envelope in the storage region. The storage region thereby has a greater stiffness relative to the side regions.

[0018] Suitably, the stiffening element is a crease, rib, flange or insert that extends in a direction transverse to the
side edges of the envelope. In other words, the element that stiffens the storage region of the envelope is not arranged parallel to the side edges of the envelope.

Suitably, the stiffening element includes two or more than two crease lines that extend along the upper or bottom edges of the envelope.

Suitably, the side regions located either side of the storage region have only one crease at the upper and bottom edges of the envelope.

Suitably, the stiffness of the side regions of the envelope varies. Even more suitably, the stiffness of the side regions increases in a direction away from the side edges toward the storage region.

In order to provide a variable stiffness to the side regions of the envelope, suitably at least part of one or a combination of the front or back panels or openable flap occupies or extends across the storage region and only partly occupies or partly extends across one or more of the side regions.

Suitably, the front and back panels recede inwardly of the side edges of the envelope across the side regions. An advantage of this feature is that the envelope in effect has a varying and increasing stiffness from the side edges of the envelope toward the central region.

Suitably, the side edges terminate before the storing region of the envelope. In other words, the tapered side edges do not extend into the storage region of the envelope.

In an embodiment, the envelope also includes at least one internal panel that is disposed between the front and back panel. Suitably, the internal panel extends at least partly across the side regions. Even more suitably, the internal panel occupies the storage region and only partly occupies one or more of the side regions.

Suitably, the internal panel extends partly across the height of one or more of the side regions.

Suitably, the internal panel has edges that taper inwardly away from the side edges across the side regions. Even more suitably, the receding or tapering edges terminate before the storage region of the envelope. In other words, the internal panel is of substantially uniform height across the storage region and varying height across the side region(s).

When the envelope includes both front and internal panels, suitably edges of the front panel align with the outermost side edges of the envelope and edges of the internal panel extend inwardly from the said side edges of the envelope.

Suitably, the internal panel forms a pocket with either one or both of the front and back panels of the envelope in which the disc media can be received. The pocket suitably is capable of receiving a computer readable medium, or written material.

According to an embodiment in which the envelope includes both an internal panel and a front panel, suitably an internal fold line is formed between the front panel and the internal panel.

Suitably the internal fold line includes one or more gaps or cut outs that provide an opening to a pocket via which the disc can be placed in the pocket.

According to another embodiment in which the envelope includes said internal panel, suitably the internal panel includes three sub-panels of which the first sub-panel is joined to the front panel along a third fold line and folded inwardly (or downwardly) between the front and back panels, the second sub-panel is joined to the first sub-panel along a fourth fold line and folded inwardly (or upwardly) between the front panel and the first sub-panel, and the third sub-panel is joined to the second sub-panel along a fifth fold line and folded downwardly between the second sub-panel and the front panel.

Suitably, any one or a combination of the first, second or third sub-panels have edges that extend inwardly from the side edges of the envelope. The edges may taper uniformly or unevenly along the height of each sub-panel.

Suitably, any one or a combination of the first, second and third sub-panels extends longitudinally across the storage region and tapers inwardly from the side edges of the envelope across the side regions.

Suitably, the first and second sub-panels are smaller in height than the third sub-panel. As a result, first and second panels being folded in overlapping relationship form a stiffened opening and the third sub-panel protrudes beyond the first and second sub-panels.

In the situation where the pocket is capable of receiving paper or other written material, suitably the pocket is capable of receiving paper or other written material that is at least 150 mm wide and ideally 215 mm wide.

Suitably, the openable flap and/or the front panel of the envelope includes an adhesive for securing the openable flap in a closed position. This adhesive may be a peel & seal, press seal, hot melt or moisture initiated types.

Suitably, the openable flap includes a tear strip for severing the openable flap when adhered in a closed position to enable the openable flap to be opened.

Ideally, the envelope is made of a paperboard weight that shall be of sufficient weight, thickness, density and stiffness to support the computer readable medium in transit, dissipate point loadings induced by the machinery rollers, be of adequate stiffness to prevent the media deforming itself around the rollers, absorbing belt and roller tension loads, and be of adequate strength to absorb the deceleration loads induced in sorting into bins.

Suitably, the envelope is made of a paperboard weight in the range of 200-350 gsm. Even more preferably, the paperboard will be of low bulk density to exhibit a degree of point load dissipation.

In some applications the envelope is used for two or more transits through the postal network. To accommodate the dual addressing need without undermining the required variable stiffness characteristics it is possible, that the envelope may have removable or disposable panels. For example, the envelope may have removable panels at the side regions so that the side regions are less stiff or not as stiff as the side regions.

Suitably, the storage region is centrally located between the side edges or side regions of the envelope. This allows the envelope to be accepted in any of four orientations in the inbound mailstream and still gain sufficient grip in the machinery to handle the centrally located computer readable medium. The computer readable medium location within the stiffer centralised storage region provides necessary protection from damage forces applied in the mail handling process, irrespective of the envelope orientation. In other words, according to this embodiment, the envelope does not rely on orientation of envelope when presented to the automation equipment, but rather the mechanical and physical characteristics of the envelope to protect the computer readable mediums contained therein.
According to the present invention there is also provided a blank for making an envelope, wallet or mail piece for mailing a computer readable medium such as a CD or DVD, the blank having:

front and back panels that are joined together along a first fold line that, when the blank is made into an envelope, forms a bottom edge of an envelope made from the blank;

an openable flap that is joined to the back panel along a second fold line that, when the blank is made into an envelope, forms an upper edge of an envelope made from the blank;

wherein a storage region that can accommodate a computer readable medium is formed between the front and back panels when the blank is made into an envelope, and wherein the storage region is stiffened relative to sections of the blank adjacent to the storage region.

Suitably, the first fold line joining the front and back panels is configured so as to have multiple creases that align with the storage region of the blank. The additional creases of the fold line thereby prove the storage region with additional stiffness compared to the remainder of the blank.

Even more suitably, the first fold line joining the front and back panels is configured so as to have double creases that align with the storage region and a single crease in other regions of the envelope.

Additional stiffness in the central storage region may also be developed by further creasing, folding paperboard or inserting additional paperboard in order to further protect parts of the disc or memory media most susceptible to breakage and damage.

Suitably, the stiffening element includes multiple creases in the front and/or second fold line that align with the storage region of the blank.

Suitably, the blank also includes at least one internal panel that is joined to the front or back panel along a third fold line, the internal panel aligning at least partially with the storage region.

Suitably, the internal panel extends beyond the storage region to at least partly align with side regions adjacent to the storage region.

Suitably, the internal panel has edges that taper outwardly or recede inwardly away from the sides edges of the blank.

Suitably, the internal panel includes three sub-panels of which the first sub-panel is joined to the front panel along a third fold line and folded inwardly (or downwardly) between the front and back panels, the second sub-panel is joined to the first sub-panel along a fourth fold line and folded inwardly (or upwardly) between the front panel and the first sub-panel, and the third sub-panel is joined to the second sub-panel along a fifth fold line and folded downwardly between the second sub-panel and the front panel.

Suitably, wherein any one or a combination of the first, second or third sub-panels extends longitudinally across the storage region and tapers in a direction moving away from the storage region.

The blank of the present invention may also include any one or a combination of the features described above with reference to the envelope of the present invention. For example, the blank may also include:

additional ribs, creases or inserts to increase the thickness and/or stiffness of the storage region;

adhesive sections on the front panel or openable panel for securing the openable panel in a closed position;

a tear strip in the openable panel to allow the openable panel to be opened; and

paper weight and density ranges.

Our experience is that CDs (being made of a single layer of polycarbonate) are most prone to cracking and breakage from the central hub outward radially and to a lesser extent from the outer edge radially inward towards the central hub ring. DVDs (being bonded dual layers of polycarbonate) exhibit similar breakage characteristics, but at lower stress levels; stress generated being a function of bending radius and/or impact and acceleration loadings. DVDs also exhibit a 'delamination' failure mode, which arises through the similar load stresses, but different failure. We have evidenced numerous failures were there is no central or outer edge cracking, yet delamination radially across the DVD. Our envelope or mail piece is also capable of protecting both CDs and DVDs by reducing the localised bend radius, thereby the stress loading; we do this via the stiffened region for accommodating the disc, and suitably a centrally located stiffened region. The performance of our envelope may also be regarded as being independent of the orientation of the mail being delivered to the Postal Service machinery. This means that anyone can place our envelope containing a media in any post box, they do not have to be specially prepared for posting.

BRIEF DESCRIPTION OF THE DRAWINGS

Three preferred embodiments of the present invention will now be described with reference to the accompanying Figures, of which:

FIG. 1 is a blank for forming an envelope or wallet for a CD or alike computer readable medium according to a first embodiment of the present invention;

FIG. 2 is a front view of an envelope made from the blank shown in FIG. 1 with an openable flap in an open position for inserting a CD into the envelope;

FIG. 3 is a perspective view of the envelope shown in FIG. 2;

FIG. 4 is a cross-sectional view along the lines A-A in FIGS. 2 and 3 and, in addition, with a CD inside the envelope;

FIG. 5 is a blank for forming an envelop or wallet for a CD or alike computer readable medium according to a second embodiment of the present invention;

FIG. 6 is a perspective view of the front of an envelope made from the blank shown in FIG. 5 with an openable flap in an open position for inserting a CD into the envelope;

FIG. 7 is a cross-sectional view along the lines A-A in FIG. 6 and, in addition, with a CD inside the envelope;

FIGS. 8 and 9 are enlarged cross-sectional views of a single and double crease fold lines included in the blanks and envelopes shown in FIGS. 1 to 7;

FIG. 10 is a blank for forming an envelope, wallet or mail piece for a CD or alike computer readable medium according to a third embodiment of the present invention;

FIG. 11 is a front perspective view of a wallet made from the blank shown in FIG. 10 with an openable flap in a closed position;

FIG. 12 is a cross section view of the envelope shown in FIG. 11 along the lines A-A shown in FIG. 11; and;
FIG. 13 is a view of the envelope shown in FIG. 11 with the openable flap shown in an open position for receiving a CD or DVD and the outline of the internal shown in dotted lines.

DETAILED DESCRIPTION

In the following description the elements of the first embodiment shown in FIGS. 1 to 4 have been identified by the reference numbers in the series 100, 101, 102... the elements of the second embodiment shown in FIGS. 5 to 7 have been identified by reference numbers in the series 200, 201, 202... and the elements of the third embodiment shown in FIGS. 10 to 13 have been identified reference numbers in the series 300, 301, 303... The preferred embodiments contain a number of features that are the same or substantially the same and as a matter of convenience these features have been identified using corresponding reference numerals. For example, an element common to both embodiments and is identified by reference numeral 110 with respect to the first embodiment is identified by reference numeral 210 with respect to the second embodiment and identified by reference numeral 310 with respect to the third embodiment.

FIG. 1 illustrates a blank 100 for making an envelope or wallet for mailing a CD or alike computer readable medium that can be sorted using conventional high speed mailing equipment. The blank 100 comprises a set of panels and flaps that are joined side-by-side. The flaps and panels comprise a front panel 104 that is joined to a back panel 102 along a first fold line 105. The back panel 102 is joined to an openable flap 101 along a second fold line 103, and an internal flap 106 that is joined to the front panel along a third fold line 107. When the blank 100 is assembled into an envelope as shown in FIGS. 2 and 3, the first and second fold lines 105, 103 form bottom and upper edges of the envelope and the left and right hand sides edges 108, 109 of the envelope essentially form leading and trailing side edges of the envelope as the envelope progress through the sorting machine. However, one of the features of the envelope is that the envelope is adapted to pass through automated sorting machinery in any orientation.

To facilitate the envelope being sorted by high speed conventional sorting machinery, we have found that the envelope preferably has a stiffened central region that accommodates the CD, which has been identified in FIG. 2 by the shaded area 110, and side regions 111, either side of the central region 110 that are more flexible than the central region 110.

According to the preferred embodiments shown in FIGS. 1 to 4, the stiffness of the central region 110 of the blank 100 is modified in a direction between the side edges 108, 109 of the envelope by means of additional creases that are preformed at the upper and bottom fold lines. As can be best seen in FIG. 1, the multiple creases 103a, 105a are provide in the central region 110 of the blank 100 and only a single crease 103b, 105b is formed in the leading a trailing regions. The additional creases provide stiffness to the blank 100 and the envelope form therefrom in a longitudinal direction between the side edges 108 and 109 of an envelope.

FIGS. 8 and 9 provide enlarged cross-sectional views of single and double creases respectively that are formed at the upper and bottom edges of the envelope 103, 105. As can be seen in FIG. 8, the single crease comprises one crest 112 that is located on the inside face of the blank 100 and, therefore, the envelope made therefrom. In comparison, the double crease shown in FIG. 9 comprises two crests 113 that are located on an inside face of the blank 100 and therefore the envelope made therefrom. Located between the crests 113 is a trough 114 and located outside of the single and double crests 112 and 113 are smaller troughs 115. As described above the double creases 113 provide in the central accommodating region 110 of the envelope provides additional stiffness and rigidity in a direction transverse to the length of the envelope between the side edges 108 and 109 of the envelope.

In addition, as can be seen in FIG. 1, the internal panel 106 has tapered edges 116 which when the envelope is assembled recedes inwardly toward the storage region 110 from the upper portion of the envelope to a lower portion of the envelope. The tapered edges 106 of the internal panel do not extend into the central region 110. In essence, the tapered edges 106 provide a progressive increase in stiffness in the side regions 111 of the envelope in a direction from the side edges 108 and 109 of the envelope to the central storage region 110. By virtue of a combination of the creases 103a and 105b and the tapering structure of the side edges 116, the side regions 111 of the envelope are less stiff than the central region 110, yet become increasing stiffer in a direction from the side edges 108 and 109 of the envelope to the central region 110.

The envelope shown in FIG. 2 is an example in which the internal panel or flap 106 is folded inwardly along the third fold line 107 and adhered to the front panel 104 by adhesive located at suitable locations identified by reference numeral 117. As can be seen in FIGS. 1 to 3, the fold line 107 between the internal and front panels 104, 106 is discontinuous and includes a curved cut or slot 118 such that when the internal panel 106 is fold inwardly, the internal panel 106 provides an integral or continuous surface on which the entire face of the CD can be placed. In addition, a cut out 119 is formed in the front panel 104 of the envelope that aligns with the centre of a CD contained by the envelope, thereby allowing the CD to be readily removed from the envelope by grasping the centre of the CD.

FIG. 1 includes a set of adhesive sections that may be in the form of hot melt glue, liquid or tape glue applied to the blank 100 during folding and assembly of the blank 100. The first set of the adhesive sections 117 secure the internal flap 106 to an inner face of the front panel 104. The second set of adhesive section identified by reference number 120 are located adjacent to the side edges and adhere the front and back panels 104, 102 together to provide the envelope shown in FIGS. 2 and 3. FIG. 4 illustrates a cross-section view along the A-A in FIGS. 2 and 3 and, in addition, includes a CD 121 positioned in the cut out of the internal fold line 107 between the front and internal panels 104, 106. Although not shown in FIG. 4, it is also possible for other material such as letters, printed material or even an additional CD to be located in the pocket form between the internal back panel 102 and the internal panel 106.

In addition, the openable flap 101 includes an adhesive strip 122 with a removable cover for securing the flap 101 to front panel 104 and a removable tear strip 123 for opening the front panel once the flap 101 has been secured in a closed position.

FIG. 5 illustrates a blank 200 of a second embodiment that is substantially the same as the embodiment shown in FIGS. 1 to 4, save for the exclusion of an internal flap. The second embodiment comprises an openable flap 201 having
rounded corners, and a front panel 206 that is joined to a back panel 202 along a first fold line 205, and the back panel 202 is joined to the openable flap 201 along a second folding line 203. When the envelope is assembled as shown in Fig. 6, the first and second fold lines 205, 203 form bottom and upper edges of the envelope and the left and right hand side edges 208, 209 of the envelope essentially form the leading and trailing side edges of the envelope as the envelope progresses through the sorting machine.

The envelope also has a stiffened central region that accommodates the CD, which has been identified in Fig. 6 by the shaded area 210, and leading and trailing side regions 211, either side of the central region 210 that are more flexible than the central region 210.

Like the embodiment shown in Figs. 1 to 4, the stiffness of the central region 210 of the blank in Fig. 5 is modified in a direction between the side edges of the envelope by means of additional creases that are preformed at the upper and bottom fold lines 203 and 205. Specifically, the multiple creases 203a, 205a are provided in the central region 210 of the blank and only a single crease 203b is formed in the leading and trailing side regions 211. The additional creases provide stiffness in a direction between the side edges 208, 209 of an envelope.

The shape and configuration of the multiple and single creases 203a, b, and 205a, b are shown in Figs. 8 and 9 and have been described above.

In addition, the front panel 206 contains tapered side edges 216 that extend inwardly from the side edges 208, 209 of the envelope. However, the tapered edges 216 do not extend into the central region 210 for accommodating the CD. As a result, the side regions 211 progressively thicken and stiffen from the side edges 208 and 209 in a direction toward the central region 210.

When the blank is assembled, sets of adhesive patches 217, preferably hot melt or liquid glue are applied to the front and back panels 206, 202 which secures the front and back panels 206, 202 together as shown in Fig. 6. The front panel 206 also includes a cut-out 219 in the shape of a large diameter arch 218 and a small diameter arch 219, thereby providing access to a CD or alike located in the envelope. Fig. 7 illustrates a CD located in the envelope, namely in the pocket formed between the front and back panels 206 and 202.

Fig. 10 illustrates a blank 300 of a third embodiment also having an internal flap 306 creating additional stiffness to the more fragile hubbing area of particularly DVDs and BDs. The third embodiment comprises an openable flap 301 having rounded corners, and a front panel 304 that is joined to a back panel 302 along a first fold line 305, and the back panel 302 is joined to the openable flap 301 along a second fold line 303. The internal flap 306 comprises three sub-panels of which the first sub-panel 306a is joined to the front panel 304 along a third fold line 307 and as seen in Fig. 12 is folded downwardly between the front panel 304 and the back panel 302. The second sub-panel 306b is joined to the first sub-panel 306a along a fourth fold line 326 and, as seen in Fig. 12, is folded inwardly (or upwardly) between the front panel 304 and the first sub-panel 306a. The third sub-panel 306c is joined to the second sub-panel 306b along a fifth fold line 326 and folded downwardly between the second sub-panel 306b and the front panel 304.

When the envelope is assembled as shown in Figs. 11 and 12, the first and second fold lines 303 and 305 form bottom and upper edges of the envelope and the left and right sides 308 and 309 of the envelope essentially form leading and trailing side edges of the envelope as the envelope progresses through the sorting machine.

The envelope also has a stiffened central region 310 that accommodates the DVD or BD, which has been identified in Fig. 10 by the shaded area, and the leading and trailing side regions 311, either side of the central region 310 that are more flexible than the central region.

Like the embodiment shown in Figs. 1 to 9, the stiffness of the central region 310 of the blank in Fig. 10 is modified in a longitudinal direction between the side edges 308 and 309 of the envelope by means of additional creases that are preformed at the upper and bottom fold lines 303 and 305. Specifically, the multiple creases 303a, 305a are provided in the central region 310 of the blank and only a single crease 303b is formed in the leading and trailing regions. The additional creases provide stiffness in a direction between the side edges 308, 309 of an envelope that resist bending of the envelope along a fold line transverse to the longitudinal direction of the envelope.

The shape and configuration of the multiple and single creases 303a, 303b, 305a, 305b are substantially the same as the corresponding creases shown in Figs. 8 and 9.

In addition, the sub-panels 306a, and 306c contain tapering side edges 316 that taper or recede inwardly from the side edges 308, 309 of the envelope. However, the tapered edges 316 do not extend into the central region 310 for accommodating the CD. As a result, the side regions 311 of the envelope progressively thicken and stiffen from the side edges 308 and 309 in a direction toward the central region 310.

Sub-panel 306b tapers outwardly toward the side edges 308 and 309 when moving in a direction from fold line 325 to fold line 326. The sub-panel 306c also includes two sets of lines, namely an inner side line 327 and an outer side line 328. The blank will be defined by the inner side line 327 in the situation in which the envelope is used for mailing a disc only and outer side line 328 in the situation in which the envelope is used for mailing a disc and an insert, or printed information (not shown in the Figures).

One of the advantages of the embodiment shown in Figs. 10 to 13 is that the first and second sub-panels 306a and 306b are smaller in height than the third sub-panel 306c. As a result, first and second sub-panels 306 and 306b are folded in an overlapping relationship so as to form a stiffened opening. The third sub-panel 306c protrudes beyond the first and second sub-panels 306 and 306b.

As shown in Fig. 10, adhesive is applied to the areas 317 which are arranged longitudinally. The areas 317 are convenient from a manufacturing standpoint and are located in proximity to an edge of a disc held in the envelope. The glue areas 317 resist longitudinal movement of the disc in the envelope during mailing.

One of the advantages of the third embodiment as shown in Figs. 10 to 13 is the envelope is created through a combination of a reusable central storage wallet and single use or two-way carrier. The resulting envelope is able to exhibit similar processing characteristics with automated mail insertion and postal network processing.

Those skilled in the art of the present invention will appreciate that many variations and modifications may be made to the preferred embodiment without departing from the spirit and scope of the present invention.
For example, although not shown in the Figures it is possible that the internal, front or back panels of the envelope may include one or more formations such as slots or tongues added to the panels or cut into the panels to help position and secure the CD or disk in position in the envelope.

According to another example, it is possible for the envelope to be designed to accommodate more than one CD and preferably two media, one on top of the other.

To enable the envelope to work generally within the principles applying to light weight paper letter carrying envelopes some version will include a particular closing flap type that conforms to the requirements of mail insertion equipment and mail metering units. FIG. 7 shows a closure flat with tapered edge and moisture initiated sealant.

One advantage of the present invention is that the envelope or blank may be automatically assembled at the mail creation stage using equipment (with some modification) common to mailrooms and mail fulfillment house facilities.

1. An envelope or mail piece for mailing a computer readable medium such as CDs or DVDs, the envelope having a front panel, a back panel, an openable flap that overlaps at least part of the front panel when closed and four edges in the form of two opposite side edges, a bottom edge and an upper edge, the bottom edge being formed by a first fold line at a junction of the front panel and back panel, the upper edge being formed by a second fold line at a junction of the back panel and the openable flap, and the envelope having a storage region that can accommodate computer readable media that is flanked by two side regions, the side regions containing or abutting the side edges, and wherein the storage region has a stiffness that is greater than the stiffness of at least one or both of the side regions.

2. The envelope according to claim 1, wherein the storage region for the media is centrally located between the side regions or side edges.

3. The envelope according to claim 1, wherein the envelope withstands loads up to 1500 gms (grams), in a longitudinal direction from one side edge to another side edge, without substantial bending of the envelope transverse to the longitudinal direction of the envelope.

4. The envelope according to claim 1, wherein the envelope includes a stiffening element or formation in or that aligns with the storage region.

5. The envelope according to claim 4, wherein the stiffening element includes one or more crease, rib, flange, or insert that is incorporated or fixed to the envelope in the storage region.

6. The envelope according to claim 4, wherein the stiffening element is a crease, rib, flange or insert that extends in a direction transverse to the side edges of the envelope.

7. The envelope according to claim 4, wherein the stiffening element includes two or more than two creases that extend along the upper or bottom edges of the envelope that align with the storage region.

8. The envelope according to claim 7, wherein the side regions located either side of the storage region have only one crease at the upper and bottom edges of the envelope.

9. The envelope according to claim 1, wherein the stiffness of the side regions of the envelope varies across the side regions.

10. The envelope according to claim 1, wherein the stiffness of the side regions increases in a direction away from the side edges toward the storage region.

11. The envelope according to claim 1, wherein at least part of one or a combination of the front or back panels or openable flap extends across the storage region and only partly extends across one or more of the side regions.

12. The envelope according to claim 1, wherein one of the front and back panels recedes inwardly on the side edges of the envelope across the side regions.

13. The envelope according to claim 1, wherein the envelope also includes at least one internal panel that is disposed between the front and back panel, and wherein the internal panel extends at least partly across the storage region.

14. The envelope according to claim 13, wherein the internal panel extends partly across one or more of the side regions.

15. The envelope according to claim 13, wherein the internal panel has edges that taper or recede inwardly away from the side edges of the envelope across the side regions.

16. The envelope according to claim 13, wherein the internal panel forms a pocket with either one or both of the front and back panels of the envelope in which the disc media can be received.

17. The envelope according to claim 13, wherein the internal panel is joined to one of the front or back panels by a fold line having a gap or cut out that provides an opening into the pocket via which the disc media can be placed in the pocket.

18. The envelope according to claim 13, wherein the internal panel includes three sub-panels of which the first sub-panel is joined to the front panel along a third fold line and folded inwardly (or downwardly) between the front and back panels, the second sub-panel is joined to the first sub-panel along a fourth fold line and folded inwardly (or upwardly) between the front panel and the first sub-panel, and the third sub-panel is joined to the second sub-panel along a fifth fold line and folded downwardly between the second sub-panel and the front panel.

19. The envelope according to claim 18, wherein any one or a combination of the first, second or third sub-panels extends longitudinally across the storage region and tapers from the side edges of the envelope across the side regions.

20. A blank for making an envelope, wallet or mail piece for mailing a computer readable medium such as a CD or DVD, the blank having:

front and back panels that are joined together along a first fold line that, when the blank is made into an envelope, forms a bottom edge of an envelope made from the blank;

an openable flap that is joined to the back panel along a second fold line that, when the blank is made into an envelope, forms an upper edge of an envelope made from the blank;

wherein a storage region disposed between the front the back panels for accommodating a computer readable medium can be formed when the blank is made into an envelope, and wherein the storage region is stiffened relative to sections of the blank adjacent to the storage region.

21. The blank according to claim 20, wherein the storage region is centrally located of the blank.

22. The blank according to claim 20, wherein the envelope includes a stiffening element or formation in the storage region.

23. The blank according to claim 22, wherein the stiffening element includes multiple creases in the first and/or second fold line that align with the storage region of the blank.
24. The blank according to claim 20, wherein the blank also includes at least one internal panel that is joined to the front or back panel along a third fold line, the internal panel aligning at least partly with the storage region.

25. The blank according to claim 24, wherein the internal panel extends beyond the storage region to at least partly align with side regions adjacent to the storage region.

26. The blank according to claim 24, wherein the internal panel has edges that taper outwardly or recede inwardly away from side edges of the blank.

27. The blank according to claim 24, wherein the internal panel includes three sub-panels of which the first sub-panel is joined to the front panel along a third fold line and folded inwardly (or downwardly) between the front and back panels, the second sub-panel is joined to the first sub-panel along a fourth fold line and folded inwardly (or upwardly) between the front panel and the first sub-panel, and the third sub-panel is joined to the second sub-panel along a fifth fold line and folded downwardly between the second sub-panel and the front panel.

28. The blank according to claim 27, wherein any one or a combination of the first, second or third sub-panels extends longitudinally across the storage region and tapers in a direction moving away from the storage region.

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