ENVELOPE FOR MAILING OF CARDS CONTAINING AN EMBEDDED CHIP

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Abstract:
A new mailing envelope for use in mailing of a rigid module that is embedded in a plastic or non-plastic substrate.
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FIELD OF THE INVENTION

[0001] The present invention relates generally to envelopes. More particularly, the present invention relates to a new mailing envelope for use in mailing of a rigid module that is embedded in a plastic or non-plastic substrate.

BACKGROUND OF THE INVENTION

[0002] The use of plastic or non-plastic substrates containing a rigid module embedded therein (hereinafter referred to as a card) is increasing exponentially.

[0003] These cards are generally mailed to the consumer using national postal systems and it has been found that the standard mailing sorting equipment damages the card when the letter containing the card is processed therethrough. As a result, the consumer receives a damaged card which is not usable and must go back to the issuer of the card for a replacement card thereby significantly increasing the costs of distribution of the cards and the time delay occurring from the card being distributed to the consumer. This has significantly increased the cost of the distribution process and increased the delays in the consumer receiving the required card.

[0004] The present invention relates to the mailing of any type of media which comprises a substrate and an embedded or affixed rigid module. One such example is the mailing of a "smart card". For purposes of explanation, the invention will be described with respect to the use of a smart card but is not restricted thereto.

[0005] A smart card is defined as a credit card sized plastic card with an embedded computer chip or module. The computer chip which is embedded in the card may be either a microprocessor with internal memory or a memory chip with non-programmable logic. Smart card technology originated in the 1970's and smart cards were introduced to the consumer in the mid-1980's and their use has been growing exponentially. It is estimated that since 1998, shipments of smart cards totalled more than one billion cards per year worldwide.

[0006] There are two general categories of smart cards. These are the contact or the contactless smart cards. A contact smart card requires the insertion of a card into a reader with a direct connection to a conductive micromodule on the surface of the card. Transmission of data and/or commands occurs via these physical contact points.

[0007] A contactless card requires only close proximity to a card reader. The card and the reader communicate via a contactless link.

[0008] There are two additional categories of cards now being developed. The first, being a hybrid card, has two chips, each with the respective contact and contactless interface. The two chips are not connected. The hybrid card serves the needs of both the consumer and the card issuer.

[0009] The second new type of card is the Combi card which contains a single chip with a contact and contactless interface. The chip on the Combi card can be accessed by a contact or contactless interface with a very high level of security. The mass transportation and banking industries are expected to be the first to take advantage of the Combi card.

[0010] The potential use for smart card technology is limitless. Some of the current major applications of smart card technology include small dish TV satellite systems where the receiver uses a smart card as its removable security element and subscription information, GSM mobile telephones with smart cards which contain the mobile phone security and subscription information. Other applications include retailer loyalty programs, physical access, resort cards, mass transit, electronic toll, product tracking, national ID, drivers license, passports and the like.

[0011] In many of these applications, the smart card is mailed to the consumer by the distributor of the card or the card issuer. The processing of a letter containing a smart card through standard mail sorting equipment has resulted in damage to the card. This damage includes physical damage to the computer chip. The damage may not be visible to the naked eye or partial or full separation of the computer chip from the underlying card. The damage is caused by the flexing of the card as it is processed through the postal sorting equipment. The potential of damage to the computer chip and the card may be avoided by processing the letter through non-stressed flat automated sorting equipment. It is therefore important to design an envelope which can be used for mailing the card or smart card which avoids damage to the computer chip and the card. Various attempts have been made in the past to develop new types of envelopes of differing dimensions which avoids damage to the contents of the envelope when processed by mail sorting equipment maintained by the various postal systems.

[0012] U.S. Pat. No. 6,182,886 to Tucker et. al. which issued on Feb. 6, 2001 discloses a rectangular envelope which is used to mail square articles. The envelope uses a filler sheet which reduces the inside space of the envelope so that a square social card will not slide around in the larger envelope. The outside dimensions are therefore in compliance with the requirements of the postal service whereas the inside dimensions of the envelope are controlled for the purposes of the square social card placed therein.

[0013] U.S. Pat. No. 4,886,205 to Schnitzer and assigned to Uarco Incorporation which issued on Dec. 12, 1989 discloses an envelope which can be used in a fully automated mailing system. A bight is formed between the top edge and the bottom edge which defines an envelope pocket. A perforation line is provided so that after processing, part of the envelope may be removed to form a conventional business envelope. The envelope may be processed as a larger envelope having a smaller inside space with the extension removed after processing.

[0014] U.S. Pat. No. 3,013,713 to Whitman uses a single gum spot to locate a cheque inside an envelope. U.S. Pat. 2,997,225 to Whitman discloses the use of a pair of adhesive spots between cheques which are held inside an envelope to prevent that cheque from moving inside the envelope itself.

[0015] U.S. Pat. No. 2,317,497 to Thompson shows the use of a strip of gum applied to the rear face of the front wall or the inner face of the end flap to securely fasten the end flap in the designated diagonal line to prevent movement of the contents of the envelope.

[0016] U.S. Pat. Nos. 1,964,595 and 1,858,277 to Overly use gum partitions to define an enclosure receiving pocket.
The prior art has generally used an adhesive or gum to secure the positioning of the contents of the envelope to prevent movement during sorting by the postal system. However, the gum or the adhesive strip may not always retain the contents in the desired position.

SUMMARY OF THE INVENTION

It is therefore an object of the present invention to provide an improved envelope utilizing a specific means to keep the card intact and to prevent damage to the computer chip and the card as it is processed through mail sorting equipment.

It is a further object of the present invention to provide an improved design to an envelope which can be processed through flat automated sorting equipment without damage to the contents thereof.

A still further object of this invention is to provide a lightweight envelope which allows for the processing of the envelope through standard postal sorting equipment but meets the requirement of having a weight of one ounce or less.

Other aspects and features of the present invention will become apparent to those skilled in the art upon review of the following description of specific embodiments of the invention in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Embodiments of the present invention will now be described, by way of example only, with reference to the attached figures, wherein:

FIG. 1 is a back side view of the envelope of the present invention.

FIG. 2 is an expanded view of a preferred embodiment of the envelope of the present invention.

DETAILED DESCRIPTION

This invention relates to mailing envelopes and in particular, to a mailing envelope used for mailing of a rigid module that is embedded in a plastic or non-plastic substrate commonly referred to as a card.

The envelope has a unique glue design of a false bottom using paper of a specified quality and weight. The envelope design and paper quality selected provide it with sufficient strength for use with high speed insertion equipment. The envelope is also light enough that with card and insertions, the resulting letter weighs one ounce or less.

FIG. 1 shows the back side of an envelope. In manufacturing the envelope, side flaps 4, 4 are provided which in the preferred embodiment, have a minimum one inch width.

Glue lines 6, 6 are provided on each side and the gluing on the side flaps extends to the side edge immediately below the top edge to immediately below the bottom edge. In this manner, no glue is exposed.

A false bottom 8 is provided on the envelope in such a manner that a solid seal line is achieved at a two inch elevation from the bottom of the envelope. A glue strip 10 is provided on the top inside of the flap of the envelope for securing the envelope in a closed position.

The front panel of the envelope may or may not contain a window 12.

The glue may be of any acceptable glue. In the preferred embodiment, the glue may be based on ethylene vinyl acetate polymer. Another example of a suitable glue is a blend of polyvinyl acetate and ethylene vinyl acetate polymer resins with or without dextrin being added to the blend.

The paper from which the envelope is made may be any commercially available paper. One example of a suitable paper is available from International Paper Company under the trade mark POSTMARK.

A preferred embodiment of a suitable envelope is shown in FIG. 2. In this embodiment, the glue strip 20 on the flap extends ⅓ of an inch from the open side of the flap which is 1.5 inches in height. Flaps 24, 24 are 0.625 inches wide. The false bottom 28 extends 2 & ⅛ inches from the bottom edge of the envelope and extends to the bottom the window 22 which is preferably 2 & ⅛ inches by 5 & ⅛ inches. When assembled, the envelope is 9.5 inches wide and 6.375 inches high.

In the preferred embodiment, the length of the envelope will be not less than 9 & ½ inches with a width of not less than 6 & ⅛ inches. By making the envelope of such dimensions, the envelope will be processed through non-stressed flat automated sorting equipment in the postal systems.

Accordingly, when the smart card is mailed to the consumer from the distributor or the issuer, the letter and the card will fit inside the envelope above the false bottom. The dimensions of the envelope allow the envelope to be processed in non-stressed flat automated sorting equipment by the postal service thereby preventing damage to the card as it is processed.

If the envelope were of smaller dimensions, it would not be processed through non-stressed flat automated sorting equipment at the postal service resulting in damage to the card. By making the envelope of the dimensions set forth herein, this will guarantee that the envelope will be processed through the correct sorting equipment. The use of the false bottom causes the letter and the card to remain stationary again preventing damage to the card itself during processing.

The above-described embodiments of the present invention are intended to be examples only. Alterations, modifications and variations may be affected to the particular embodiments by those skilled in the art without departing from the scope of the invention, which is defined solely by the claims appended hereto.

1. A mailing envelope for use in mailing a rigid module that is embedded in a plastic or non-plastic substrate which comprises front and rear panels, a pair of side flaps and a top flap, said side flaps being adapted to be secured to the rear panel immediately inwardly of each side edge and a top panel adapted to be secured to the rear panel immediately below the top edge thereof, said envelope having a false bottom thereby providing a reduced area within the envelope for the contents thereof.

2. A mailing envelope as claimed in claim 1 wherein said false bottom extends at least two inches upwardly from the bottom edge thereof.

3. A mailing envelope as claimed in claim 1 having a length of not less than 9 & ½ inches and a width of not less than 6 & ⅛ inches.
4. A mailing envelope as claimed in claim 1 wherein said side flaps and said top flap carry glue strips comprising an ethylene vinyl acetate polymer.

5. A mailing envelope as claimed in claim 4 wherein said glue strips further comprise dextrin.

6. A mailing envelope as claimed in claim 1 wherein said side flaps and said top flap carry glue strips comprising a blend of polyvinyl acetate and ethylene vinyl acetate polymer resins.

7. A mailing envelope as claimed in claim 6 wherein said glue strips further comprise dextrin.

8. A mailing envelope as claimed in claim 1 wherein said side flaps have a minimum of one inch width.

9. A mailing envelope as claimed in claim 1 which weighs less than one ounce.

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