

TRANSLATION

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DIRECTLY RECYCLED ENVELOPE

The present invention pertains to envelopes which are made directly from wastepaper.

Envelopes recycled from wastepaper are known. The recycling process comprises the collection of the wastepaper, which is made into a slurry with water, bleached in batches, dried, and rolled to form webs of paper. New envelopes are cut or stamped from the paper webs.

The blanks of these conventional envelopes have essentially a width of 230-240 mm, particularly 235 mm, and a height of 240-250 mm, particularly 245 mm; and in the folded state they have a width of 205-215 mm, particularly 210 mm, and a height of 105-115 mm, particularly 110 mm.

It is known from DE 3,521,777 A1, for example, that square blanks can be used to produce envelopes, in which each of the four sides boundaries of the folded letter, which constitutes a single unit in its folded state are simultaneously the fold lines and base lines of triangular sealing flaps, which, when folded over at the boundary lines, make it possible to seal the folded letter into a rectangular shape, strips on one side being provided with an adhesive to hold the sealing flaps in place. For this purpose it is proposed that the rectangular field, which appears on both surfaces of the original square blank, be situated so that its long sides are parallel but not centered with respect to a diagonal extending from corner to corner of the square blank. The sides of the folding blank which are to be situated on the

inside serve as the message side, on which the writer can write the text to be communicated. A letter format produced in this way is designed to solve the problem of providing a message carrier which can be treated in the same way as a postcard but which avoids the disadvantage of the postcard's lack of privacy and which in particular offers more room. Savings are achieved only in that there is no longer any need for a separate envelope.

The disadvantages encountered in the production of these recycled envelopes are the high consumption of water, energy, and chemical additives as bleaching agents, which means that envelopes produced in this manner suffer from a generally unfavorable ecobalance.

The task of the present invention is to avoid the cited disadvantages in the production of recycled envelopes and to create envelopes made from wastepaper which, with respect to their production, offer a much reduced environmental burden and thus a much better ecobalance.

This task is accomplished in accordance with the invention by means of the characterizing features of Claim 1.

According to Claim 1, an envelope according to the invention is made in an advantageous manner directly from wastepaper, no use being made of water or of chemical additives. For this purpose, it is provided in accordance with the invention that the sorted wastepaper intended to be used as starting material is cut immediately into the form of the blank intended for further processing, and this blank is then folded into an envelope without any further chemical treatment. The envelopes produced in this way offer the advantage over envelopes recycled in the conventional manner that the use of environmentally polluting chemical additives such as bleaching agents is completely eliminated. It is advantageous that the law which calls for expensive disposal

processes to eliminate environmentally harmful substances after production does not apply to the process according to the invention.

In addition, an energy savings of approximately 98% is achieved by the elimination of the chemical workup of the wastepaper, it being assumed here that approximately 2% of the total energy consumption used in conventional production processes is still needed for the sorting, cutting, and folding operations.

Another advantage can be enjoyed when, as proposed in Claim 2, the envelopes are made by folding blanks which are obtained from magazine and periodical formats, which are available in large amounts as wastepaper.

A selection of standard periodicals with their page formats is listed on the next page.

<u>Periodical</u>	<u>Height, mm</u>	<u>Width, mm</u>
TV-Spielfilm	295	230
TV-Movie	285	230
Hör-Zu	280	215
MAX	335	235
fit	325	240
Chip	295	210
PC-Praxis	295	210
PC-Propessionel	300	210
DOS-international	300	210
amiga	300	210
windows-direkt	300	210
Pc-direkt	300	210
Prinz	290	220
Stern	295	220
Spiegel	280	210
focus	265	215
Bunte	280	215
Bild der Frau	320	230
die aktuelle	265	210
Neue Welt	280	210
Eltern	280	215
Brigitte	280	215
Freundin	280	215
Für Sie	280	215
Petra	280	215
Das goldene Blatt	280	210
cosmapolitan	280	210

It can be derived from this list that the periodicals listed here have a minimum height of 265 mm and a minimum width of 210 mm. The minimum width of 210 mm must be reduced by a processing tolerance of 5 mm to 205 mm. The processing tolerance is necessary because of the use of metal staples or adhesive to hold the individual pages of the periodical together.

On the basis of the periodical formats used, it has been found to be especially advantageous for the magazine or periodical paper to be cut to shape in accordance with the characterizing features of Claim 3, 4, 5 or 6. These blanks are suitable for use as one-piece blanks for the production of one-piece envelopes. These envelopes offer the advantage that additional sorting and gluing operations, such as those normally used in the production of multi-part envelopes, are avoided. In addition, the quantity of adhesive otherwise required is reduced in the case of one-piece envelopes, which facilitates the later disposal of the envelopes according to the invention after they have been used, because adhesives must be disposed of in special ways.

As a result, it is guaranteed that envelopes with a base area of in particular 110 mm x 220 mm can be produced directly, in a single piece from wastepaper with a format of 205 x 265 mm.

This task is accomplished in accordance, with the invention by means of a new arrangement of the fold lines in conjunction with a new blank according to the features of Claims 3 or 4 or 6. Additional advantageous embodiments of the object of the invention are explained in greater detail in the other subclaims and in the following detailed description.

An exemplary embodiment of the invention is explained below on the basis of Figures 1 and 2:

- Figure 1 shows a blank for an envelope according to the invention; and
- Figure 2 shows the blank according to Figure 1 after it has been folded to form an envelope.

The top 2, bottom 4, right 6, and left 8 fold lines form essentially a rectangle 10, with side dimensions of 90-140 mm, particularly 110 mm, x 180-250 mm, and particularly 220 mm. Rectangle 10 is arranged in such a way on the surface of blank 1 that left fold line 8 forms an angle α of 5-85°, and particularly 26°, with the left outside edge 12a of the blank. Corners 14a, 14b of the rectangle are separated by a distance of 0-10 mm, and particularly 5 mm, in each case from left outside edge 12a, bottom edge, and right outside edge 12b of blank 1.

Cutaway portions 11a, 11b, which are essentially triangular, are provided in left outside edge 12a, the bottom edge, and right outside edge 12b of the blank. The triangles are arranged in such a way that their longest side coincides with the associated outside edge 12a, 12b, and the tip opposite it coincides with the associated tip 14a, 14b of the rectangle.



CLAIM(S)

1. Envelope made from at least one blank, characterized in that the blank (1) is made directly from wastepaper, which is processed or pretreated without the use of chemical additives and without the use of water.

2. Envelope according to Claim 1, characterized in that the wastepaper consists of old periodicals.

3. Envelope according to Claim 1 and/or Claim 2, characterized in that the outside dimensions of the blank (1) for the envelope (3) do not exceed 190-240 mm x 270-340 mm.

4. Envelope according to at least one of Claims 1-3, characterized in that the outside dimensions of the blank (1) do not exceed a format of 205 mm x 265 mm.

5. Envelope according to at least one of Claims 1-4 characterized by a base format of 90-140 mm x 180-250 mm in the folded state, where the long fold lines (6, 8) form essentially an angle α of 5-85° with the long outside edges (12a, 12b) of the blank (1).

6. Envelope according to at least one of Claims 1-5, characterized in that the long fold lines (6, 8) form essentially an angle α of 26° with the long outside edges of the blank (1).

7. Envelope according to at least one of Claims 1-6, characterized in that the envelope (3) has an address window.

8. Envelope according to Claim 7, characterized in that the window is joined permanently to the envelope on the inside or outside surface of the envelope and forms a smooth surface with it.

9. Envelope according to at least one of the preceding claims characterized in that, in the folded state, a coding, zone measuring 140 x 15 mm is located at the lower right edge and/or in that a franking zone measuring 740 x 400 mm is located at the top right edge.

10. Envelope according to at least one of the preceding claims, characterized in that the top (9a) or the bottom (9b) or the right (9c) or the left (9d) paper flap is a sealing flap.

11. Envelope according to at least one of the preceding claims, characterized in that the sealing flap (9a, 9b, 9c, 9d) is provided either with an adhesive which must be moistened for sealing or with a pressure-sensitive adhesive, which fulfills its sealing function upon the application of pressure.

12. Envelope according to at least one of Claims 1-11, characterized in that the envelope is provided with pressure-sensitive adhesive labels.

13. Envelope according to at least one of Claims 1-12, characterized in that the envelope (3) is made in one piece from a one-piece blank (1).

14. Envelope according to at least one of Claims 1-13, characterized in that the blanks (1) are stamped and/or cut from wastepaper.



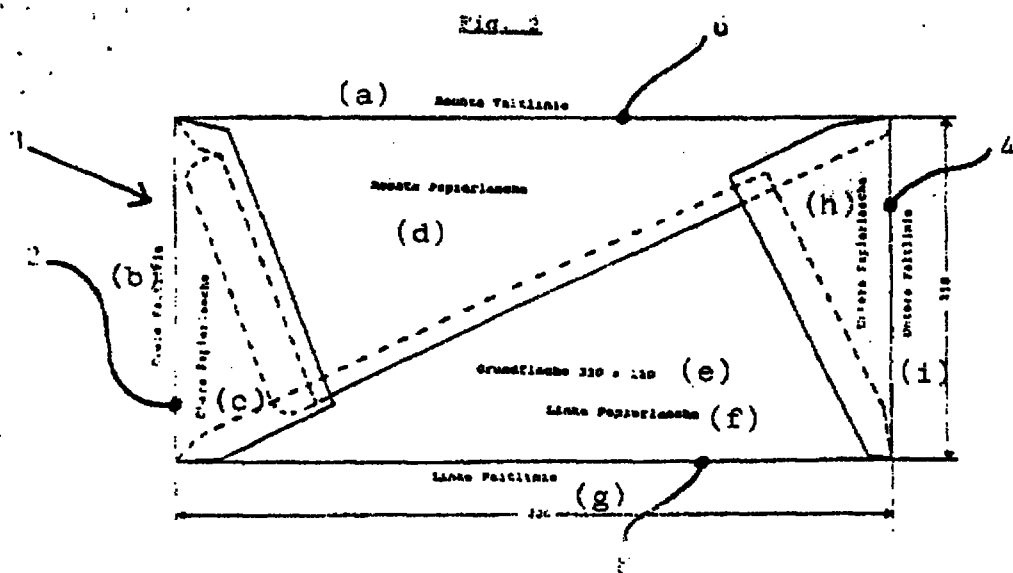


Figure 1. KEY: (a) right flap; (b) right fold line; (c) bottom fold line; (d) bottom flap; (e) base surface 220 X 110; (f) top flap; (g) top fold line; (h) left fold line; and (i) left flap

