

INTEC Support Document

Subject:

Envelope Printing Tips (CP2020 / XP2020 in any hardware configuration)

Details:

The media selected for a specific print job plays an important role in delivering high quality results. In addition to the general quality of the media (texture, weight, and composition), the physical design and construction of an envelope must be taken into consideration in striving to achieve optimum print quality.

This document highlights common envelope styles and the challenges imposed. In some cases, the envelope's composition and construction may limit the type of graphic artwork and/or the positioning of the content for that envelope style. Some envelope styles should be avoided altogether or could cause damage to your INTEC printer.

Envelope Styles:

Examples given below use a standard business envelope (COM-10 or DL) but the details covered can be applied to other size.

1. SIDE SEAM (OR COMMERCIAL FLAP)

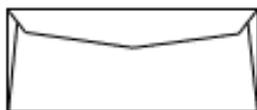
The preferred envelope design for laser-type printing.

Provides a large surface area uninterrupted with folds and seams.

Widely used for a variety of business and personal correspondence.

Example of envelope style:

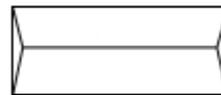
Example of envelope flap styles:



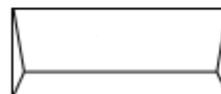
Side Seam



Commercial Flap



Square Flap



Wallet Flap



Policy

2. WINDOW (WITH OR WITHOUT FILM)

Window envelopes MUST be “laser” compatible (i.e., any film window must be able to withstand high temperatures in the printer’s fuser unit).

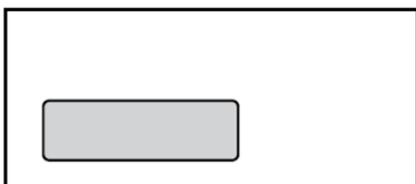
Misuse of this type of envelope may cause damage to the fuser unit.

Certain film materials may feed incorrectly on the HPP configuration and cause excess jamming problems or tearing of the envelope window or film material.

CAUTION:

It is the CUSTOMERS responsibility to make sure that any film-type window envelope is laser compatible. Inkjet or other unapproved materials may melt inside the printer causing damage to your consumables that will not be covered by the warranty.

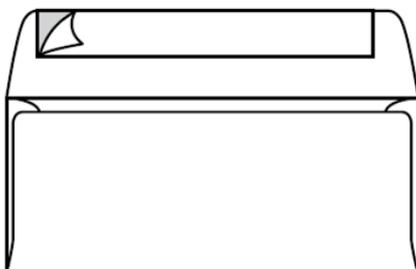
Example of window envelope style:



3. PEEL AND STICK SEALING

Often yields good results when laser printed, but can increase visible seam lines.

Example of Peel and Stick envelope style:



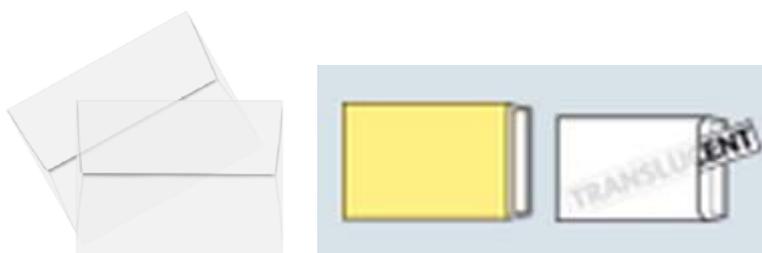
4. TRANSLUCENT

Translucent envelopes can be made of a wide variety of materials (i.e., vellum, polyester, etc.) and are commonly used for marketing campaigns.

CAUTION:

Please make sure the material is laser safe or it could melt inside the printer causing damage to your consumables that will not be covered by the warranty.

Example of Translucent envelope styles:



DO NOT USE ON INTEC PRINTERS

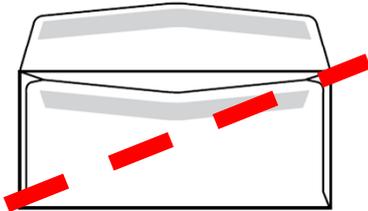
1. 2-SIDED ADHESIVE PRESSURE SEAL

These envelopes contain gum on both flap and envelope sealing edge.

Using this type of envelope can cause it to self-seal during fusing.

Gum from the envelope can transfer to the inside of the printer causing damage to your consumables that will not be covered by the warranty.

Example of 2-Sided Adhesive envelope style:



2. METAL CLASPS

These envelopes contain a flat metal fastener on the sealing edge.

Using this type of envelope can cause damage to your consumables that will not be covered by the warranty.

Example of Clasp envelope style:

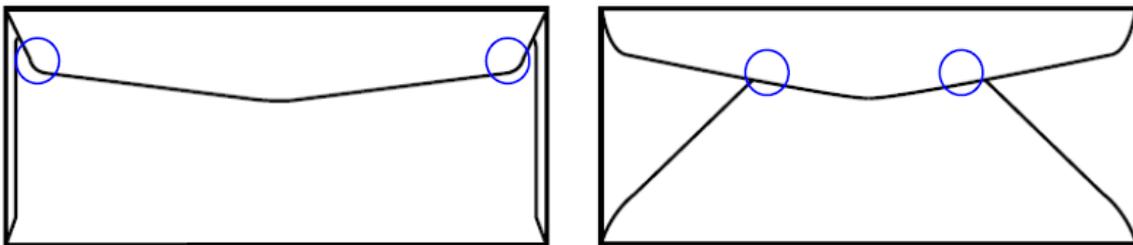


Envelope Considerations:

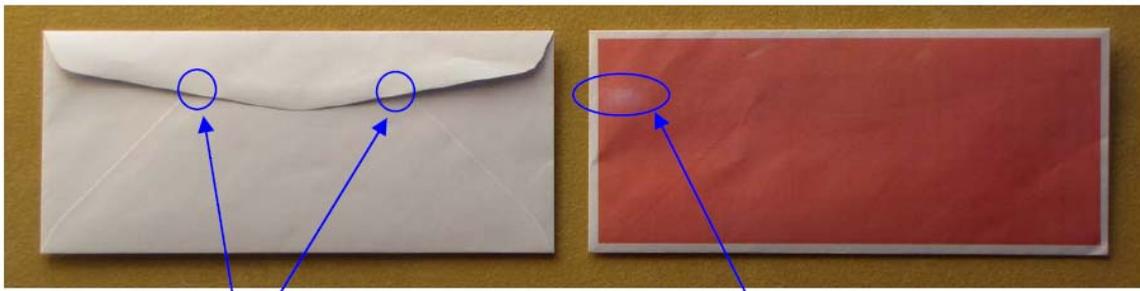
When selecting envelopes, be aware that the physical design and paper quality of the envelope may impose limitations on print quality and/or handling. Envelopes can be a challenge because of the multiple surfaces passing through the printer.

Most envelopes require the printer to transfer toner onto a surface that has 2, 3 and 4 layers of thickness. A typical envelope will have 4 layers of media in multiple locations when the flaps are closed.

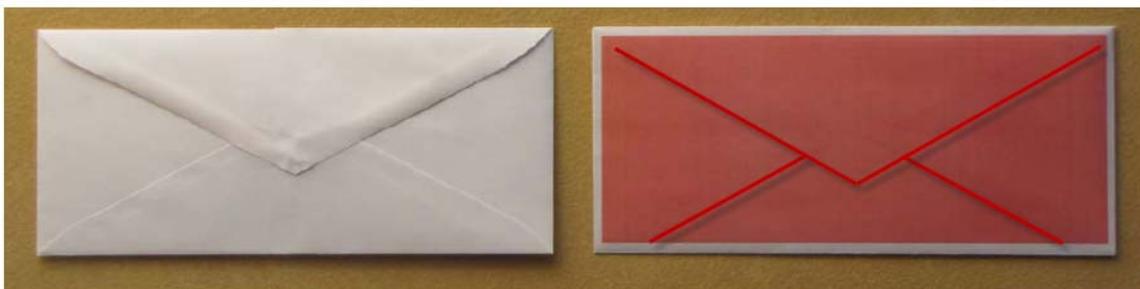
In the illustration below, the blue circles indicate the location where 4 layers of media overlap on two different envelop designs. In general, our INTEC printers are very capable of transferring toner onto thick media types. However, testing has found that the location of the overlapping layers may create pressure points in one area which yield a void of pressure in other areas of the envelope or a increase in pressure in other locations causing seam lines on the final product.



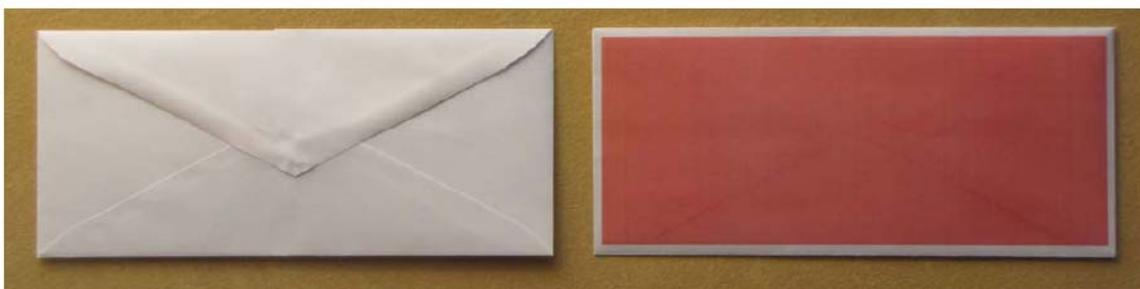
Void caused by increased thickness at the middle of the envelope.



Increased thickness at the envelope seams can cause voids in lower pressure areas.



Seam lines caused by increased thickness at where the folded paper joins.



Envelope shown is considered within the printing specifications of the INTEC printer.

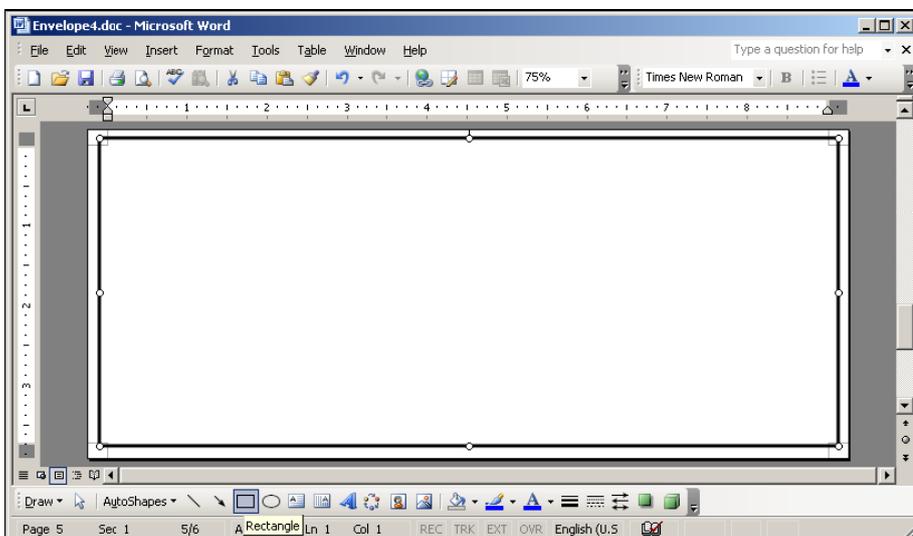
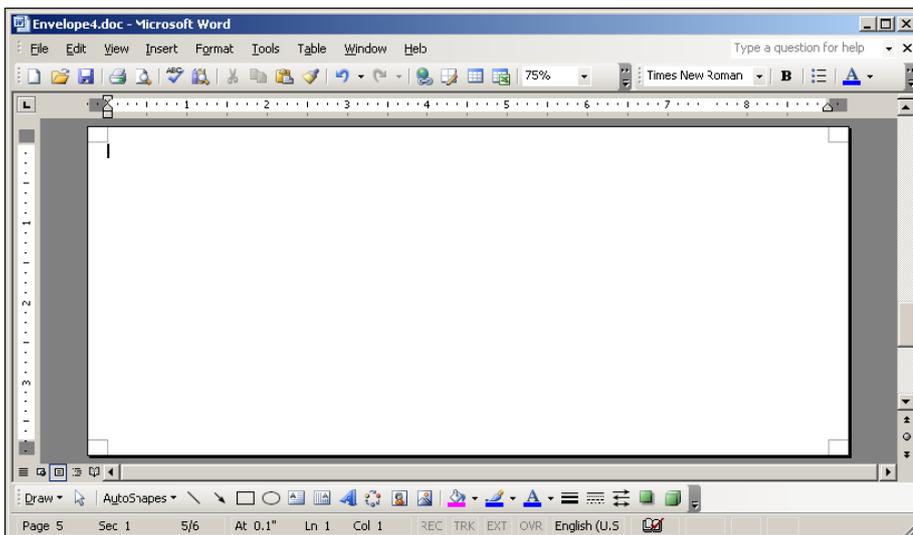
Testing and Selecting Envelopes:

Knowing the limits of an envelope is helpful in paring the right envelopes with the customer requirements. Knowing the strengths of each envelope type can be helpful in matching a job to an envelope or knowing when to change the content and/or the layout of a print job.

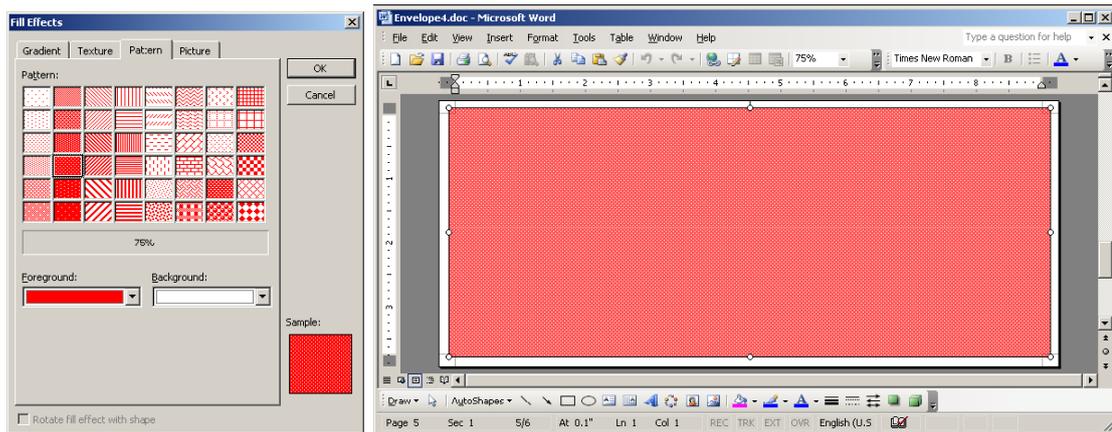
Basic Steps for Creating a Test File:

The procedure below uses Microsoft Word to help identify envelopes that could be problematic, but any application that provides a similar setup would be sufficient.

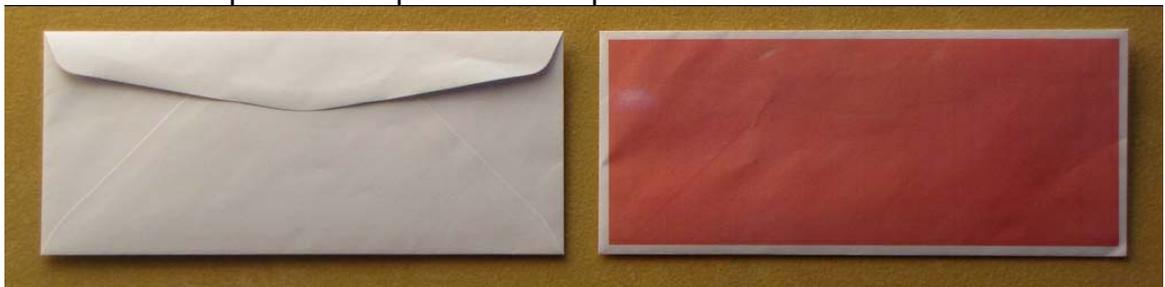
1. Open MICROSOFT WORD and create a NEW document
2. Select the FILE menu > PAGE SETUP then select the PAPER TAB
3. Change the PAPER SIZE to match the desired envelope (i.e., COM-10 or DL)
4. Select the MARGINS TAB than select LANDSCAPE
5. Close the PAGE SETUP
6. Draw a rectangle allowing 0.3 inch for the margins



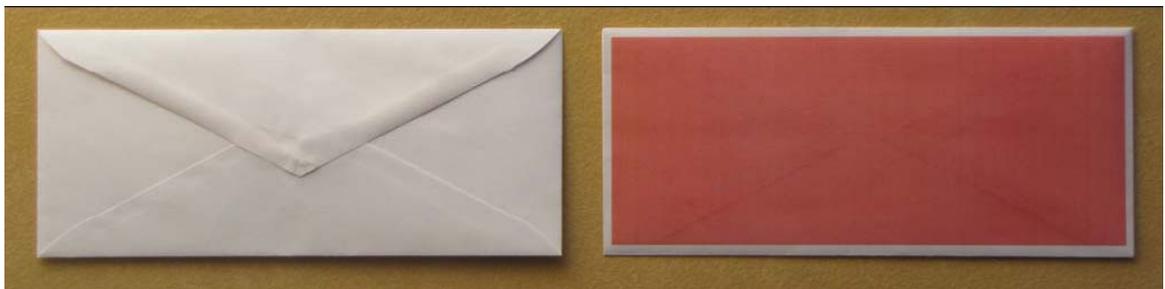
7. Fill the rectangle with a 75% pattern and a single color (i.e., red hatch)



8. Print the envelope and compare it to the photos below:



VOIDS IN PRINT AREA 1: *Caused by pressure difference on overlapping areas of the envelope.*



VOIDS IN PRINT AREA 2: *Corrected voids by choosing a different flap design.*

The images above illustrate that the pressure points of a particular envelope design may interfere with the printer's ability to maintain uniform contact between the printer's image drums and the surface of the envelope.

Keep in mind, that an envelope design that has a weakness in one area may be acceptable for jobs that do not use that area. Testing and experience will help to quickly identify the best envelope for a given job or layout. Some jobs may require you to use a specific envelope in order to reliably place content in specific locations or to achieve consistent quality.

General Recommendations:

- Test envelopes before purchasing large quantities.
- Use envelopes designed and recommended for laser printers whenever possible.
- Envelopes should be free from twist, curl or other deformations.
- Glue must remain intact when subjected to heat/pressure fusing inside the printer.
- DO NOT print with the envelope flap open if they are gummed.
- Window envelopes must be designed for the higher fusing temperatures of your INTEC printer. Use of inappropriate media may damage the fuser and other consumables.
- Load envelopes face-up, flap down and closed, with the flap edge entering first.
- Layout design or graphic artwork should be adjusted in order to deliver the best results on a specific envelope or be paired with a specific envelope style if the artwork can not be adjusted (see Testing and Selecting Envelopes section).
- The placement of the return address and/or logo should be adjusted to optimize image transfer along the edge of the envelope or where the envelope transitions from 2 to 3 layers of media (see Testing and Selecting Envelopes section).
- The printer offers a range of media settings that influence image transfer strength, speed, and fuser temperature. In many cases, print quality can be improved by adjusting media settings. (i.e., a heavier media setting may help to ensure toner is being pulled onto the envelope in critical areas, while lighter settings may help to minimize hotspots or creasing).
- Watch out for envelopes with a thick layer of adhesive or an uneven build-up of glue along the edges of the flap. Heat and humidity may result in a build-up of adhesive on printer components and contribute to frequent jams and degraded print quality.
- Do not use pressure seal envelopes that expose the printer to gummy adhesive.
- Store envelopes in a dry area. Excess moisture released while printing (fusing) can cause envelopes to seal during printing. A controlled environment may be required if humidity levels are high.
- Small pockets of air trapped inside an envelope may also interfere with the printing process resulting in random voids. Some envelope designs are more prone to trapping air than others and flattening envelopes prior to printing may help.
- On the HPP configuration; INTEC recommends running the feeder with 1 rail installed (or no rails installed), so that printer can straighten the leading edge of the envelope without any interference from the feeder side rails.
- Side seam type envelopes will minimize seam show-through from fusing.
- Plastic windows may have static buildup and require slight adjustment during feeding. Loose stacking is recommended for best feed results.
- Some window envelopes withstand wrinkling and rippling better than others.

UK Standard Envelope Size Guide:

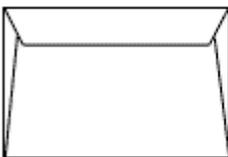
Standard UK envelope sizes		
Envelope Size	Millimetres	Inches
C0	917 x 1297 mm	36.10 x 51.00 in
C1	648 x 917 mm	25.50 x 36.10 in
C2	458 x 648 mm	18.00 x 25.50 in
C3	324 x 458 mm	12.75 x 18.00 in
C4	229 x 324 mm	9.00 x 12.75 in
C5	162 x 229 mm	6.375 x 9.00 in
C6	114 x 162mm	4.50 x 6.375in
C7	81 x 114 mm	3.25 x 4.50 in
C 7 / 6	81 x 162 mm	3.25 x 6.375 in
DL	110 x 220mm	4.33 x 8.66 in

USA Standard Envelope Size Guide:

1. BOOKLET ENVELOPE

Booklets are constructed with a side seam and are commonly used for annual reports, brochures, sales materials, and a variety of printed material. The open side makes it acceptable for automatic insertion and ideal for volume mailing.

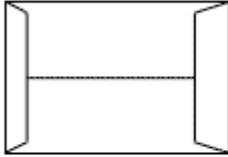
Example of Booklet envelope style and sizes:

	TYPE	SIZE	Suggested Enclosure
			<i>(varies according to insert thickness)</i>
 <p>Booklet</p>	3	4.75" x 6.5"	4.5" x 6"
	4 1/2	5.5" x 7.5"	5.25" x 7"
	5	5.5" x 8.125"	5.25" x 7.625"
	6	5.75" x 8.875"	5.5" x 8.375"
	6 1/2	6" x 9"	5.75" x 8.5"
	6 5/8	6" x 9.5"	5.75" x 9"
	6 3/4	6.5" x 9.5"	6.25" x 9"
	7 1/4	7" x 10"	6.75" x 9.5"
	7 1/2	7.5" x 10.5"	7.25" x 10"
	9	8.75" x 11.5"	8.5" x 11"
	9 1/2	9" x 12"	8.75" x 11.5"
	10	9.5" x 12.625"	9.25" x 12.125"
	13	10" x 13"	9.75" x 12.5"

2. CATALOG ENVELOPE

Catalogs are constructed with center seam and are more durable. Commonly used for mailing heavy-weight materials (i.e. catalogs, large booklets). These can be processed through INTEC inserting equipment, but proper feeding is unpredictable due to the varying thickness or media types involved.

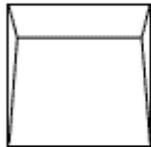
Example of Catalog envelope style and sizes:

	TYPE	SIZE	Suggested Enclosure <i>(varies according to insert thickness)</i>
 <p>Catalog</p>	1	6" x 9"	5.75" x 8.75"
	1 3/4	6.5" x 9.5"	6.25" x 9"
	3	7" x 10"	6.75" x 9.5"
	6	7.5" x 10.5"	7.25" x 10"
	8	8.25" x 11.25"	8" x 10.75"
	9 3/4	8.75" x 11.25"	8.5" x 10.75"
	10 1/2	9" x 12"	8.75" x 11.5"
	12 1/2	9.5" x 12.5"	9.25" x 12"
	13 1/2	10" x 13"	9.75" x 12.5"
	14 1/2	11.5" x 14.5"	11.25" x 14"
	15	10" x 15"	9.75" x 14.5"
	15 1/2	12" x 15.5"	11.75" x 15"

3. SQUARE ENVELOPE

Squares are constructed with side seams and contemporary square flap. This unusual shape is commonly used in marketing campaigns. Square envelopes are nonstandard and may require additional postage to mail.

Example of Square envelope style and sizes:

	TYPE	SIZE	Suggested Enclosure <i>(varies according to insert thickness)</i>
 <p>Square</p>	<u>5"</u>	<u>5" x 5"</u>	4.75" x 4.75"
	<u>5 1/2"</u>	<u>5.5" x 5.5"</u>	5.25" x 5.25"
	<u>6"</u>	<u>6" x 6"</u>	5.75" x 5.75"
	<u>6 1/2"</u>	<u>6.5" x 6.5"</u>	6.25" x 6.25"
	<u>7"</u>	<u>7" x 7"</u>	6.75" x 6.75"
	<u>7 1/2"</u>	<u>7.5" x 7.5"</u>	7.25" x 7.25"
	<u>8"</u>	<u>8" x 8"</u>	7.75" x 7.75"
	<u>8 1/2"</u>	<u>8.5" x 8.5"</u>	8.25" x 8.25"
	<u>9"</u>	<u>9" x 9"</u>	8.75" x 8.75"
	<u>9 1/2"</u>	<u>9.5" x 9.5"</u>	9.25" x 9.25"

4. BARONIAL ENVELOPE

Squares are constructed with a deep pointed flap and diagonal seams. Traditionally used for formal announcements, invitations and greeting cards. Construction of this envelope may cause media wrinkling or excessive seam lines.

Example of Baronial envelope style:



TYPE	SIZE	Suggested Enclosure <i>(varies according to insert thickness)</i>
Professional**	<u>2.125" x 3.625"</u>	2" x 3.5"
#16 (Mrs.)**	<u>2.375" x 3.375"</u>	2.25" x 3.125"
#17 (Mr. & Mrs.)**	<u>2.6875" x 3.6875"</u>	2.5625" x 3.5625"
Gladstone**	3.563" x 5.562"	3.375" x 5.375"
4-Bar (or A1)	<u>3.625" x 5.125"</u>	3.5" x 4.875"
5 1/2-Bar	<u>4.375" x 5.75"</u>	4.25" x 5.5"
6-Bar	4.75" x 6.5"	4.625" x 6.25"
Lee	5.25" x 7.25"	5.125" x 7"
Linwood/Monona Inside	<u>5.25" x 7.5"</u>	5" x 7.25"
Monona Outside	<u>5.5" x 7.75"</u>	5.25" x 7.5"

**** This size is too small to mail.**

5. ANNOUNCEMENT ENVELOPE OR A-STYLE

Announcements have a side seam construction and contemporary square flap. Popular design is ideal for stationery, photographs, greeting cards, etc. A-Envelopes and Baronial Envelopes can share common sizes. (i.e., a 5-1/2 Bar is the same dimension as A2; the defining differences are the flaps and the side seam construction).

Example of Announcement envelope style and sizes:

TYPE	SIZE	Suggested Enclosure <i>(varies according to insert thickness)</i>
<u>A-2</u>	<u>4.375" x 5.75"</u>	4.25" x 5.5"
<u>A-6</u>	<u>4.75" x 6.5"</u>	4.625" x 6.25"
<u>A-7</u>	<u>5.25" x 7.25"</u>	5.125" x 7"
<u>A-8</u>	<u>5.5" x 8.125"</u>	5.375" x 7.875"
<u>A-9</u>	<u>5.75" x 8.75"</u>	5.5" x 8.5"
<u>A-10</u>	<u>6" x 9.5"</u>	5.875" x 9.25"