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Authorised: Dave Meredith
Title: Insert and Envelope Specification

INSERT AND ENVELOPE SPECIFICATION

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1. General Statement

These specifications are to be used as a guide by clients / printers when designing / briefing an item to be included in a machine enclosed mailing pack. They are based on the mechanical enclosing equipment used by Integrity Print. All enclosing equipment differs in tolerance and design and it is therefore important that the specifications are adhered to in order to avoid slow running charges being imposed or rejection of an insert / envelope.

These specifications have been written using the manufacturer's stated guidelines for the enclosing equipment we operate at Integrity Print.

The minimum and maximum dimensions detailed in this document represent the range of dimensions across our whole fleet, it is always advisable to liaise with your Integrity Print Account Manager when designing a new insert so that adequate testing can be undertaken and due consideration can be given to capacity management and scheduling.

The enclosing equipment used at Integrity Print is designed to run at high speed and to handle multiple variable inserts in order to afford clients the ability to maximise their customer correspondence, therefore when designing a whole pack it is important to consider the combination of individual inserts making up the overall mailpack.

Consideration should always be given to the desired overall pack thickness and weight, enclosing multiple inserts will have an overall impact on the enclosing machine's running speed and the thickness of the mailpack which may result in packs exceeding the stated maximum thickness of 5mm and weight of 100g required by Royal Mail. (See 2.11).

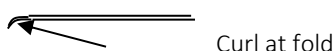
2. Inserts & Business Reply Envelopes (BREs)

2.1. Shape

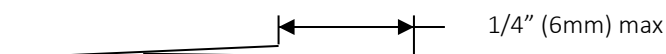
Inserts should always be rectangular in shape.

2.2. Folded Enclosures

- The default requirement is for the folded edge to be the longest edge of the insert.
- Inserts must feed from the leading (folded) edge.
- Enclosures must be folded to maintain an overall thickness of enclosure inserts that are 'visibly sloping' can affect mechanical enclosing performance.
- Folds should be made parallel to the paper grain direction. This will result in a cleaner, straighter fold with less thickness increase at the fold.
- All fold types are allowable with the exception of "Z" folds.
- Folds should be sharply creased, flat, and free of edge curl – see diagram below.

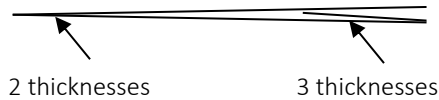


Folds must not result in the free ends being greater than 1/4" (6mm) from a fold – see diagram.



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Short folds that result in either the leading or trailing edge being 1 ½ times as thick or thicker than the opposite edge are not allowed – see diagram.



2.3. Stapled Booklets

- If stapled / stitched booklets are required we recommend they are folded before being stapled / stitched, this is because they lie flatter and require fewer manual turns in feeding insert hoppers.
- The outer cover should be of higher gsm paper than the internal pages.
- Thicker booklets must have outer envelopes designed with the size of booklet taken into consideration.

2.4. Variation within batches

Variation of insert size must be kept to a 2mm minimum as a batch of inserts of differing sizes will jam during mechanical enclosing.

2.5. Glue

Any enclosure with glued features must not allow stray glue to attach enclosures together. Exposed “re-moistenable” adhesive is not allowed.

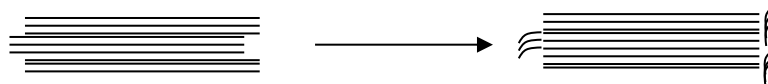
2.6. Packaging

In general, packaging of enclosures should not result in curling, creasing, folding or otherwise damaging of the edges of the enclosure.

Stapled booklets must lie flat in the box and must be turned in batches (no less than in 50's).

2.7. Stacking

Enclosures should be packaged in a way that will hold stacks even on the edges – uneven stacking can result in unacceptable edge curl.



2.8. Ink and Surface Condition

- Large areas of bold colour should be avoided where possible
- Ink should be dried before packaging. UV, air and infrared drying is preferred
- Surfaces should be finished to prevent ink rubbing off to the hopper feeding mechanisms.
- Highly reflective or metallic finish is not recommended.
- Ink should be dry or set sufficiently to prevent enclosures from sticking together (blocking).
- Ink should not smudge when enclosures are rubbed together.
- Powder should not be used to prevent enclosures from sticking together (blocking).

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2.9. General Paper Requirements

- Paper Moisture Content shall be within 4% - 6% by weight.
- Maximum Recycled Paper Grade shall not exceed 20% - 30%
- Material shall be stored within a Temperature Range of 65-85°F.
- Material shall be stored within a Humidity Range of 40%-60% RH.

2.10. End Clearance Requirements

Consideration must be given to the overall pack dimensions where multiple enclosures are being inserted into an outer envelope. A thicker pack reduces the effective opening of the outer envelope, this may result in the end clearance requirements not being met even though each individual insert appears to be within material specification.

For all sizes of outer envelope, the end clearance requirements are:

- Width – 19mm (parallel to the longest edge of the outer envelope).
- Height – 10mm, (from the flap fold to the insert.)

2.11. Overall Pack Dimensions

Royal Mail limits for Mailmark are as follows:

- Weight – 100gsm
- Thickness – 5mm.

Any packs that exceed these dimensions within a batch will cause the entire batch to be downgraded to large letter and additional postal charges will apply.

2.12. Insert Dimensions

Please consider both the specific outer size and the pack end clearance requirements when determining insert size.

Outer size	Width		Depth		Insert Thickness	
	Min:	Max:	Min:	Max:	Min:	Max:
C5 (162mm x 229mm)	140mm	210mm	98mm	152mm	Min: 0.1mm (uncompressed)	Max: 3.6mm (Uncompressed)
Oversized C5 (162mm x 239mm)	140mm	216mm	98mm	152mm	Min: 0.1mm (uncompressed)	Max: 3.6mm (Uncompressed)
DL (110mm x 220mm)	140mm	201mm	98mm	100mm	Min: 0.1mm (uncompressed)	Max: 3.6mm (Uncompressed)
C4 (229mm x 322mm)	76mm	300mm	51mm	210mm	Min: 0.1mm (uncompressed)	Max: 4.7mm (uncompressed)

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3. Envelopes

When ordering envelopes please always specify “for mechanical inserting.”

General Guidelines

Envelope and material handling problems in automatic mail inserting equipment are often due to envelope distortion (warping, curl, deformation, etc.). This can occur as a result of poor packaging, improper handling and storage as well as temperature and humidity extremes.

These problems can originate at the time of envelope manufacture, during finished goods transit, or develop as the result of poor environmental controls either at the manufacturing site or the storage facility, or both.

Fortunately, there are a number of very effective measures—many of them easy to implement—that envelope users and suppliers can take to minimize these problems and improve the production rate of mail inserting equipment.

The recommendations below are aimed at a single goal: to help get the most from the inserter system.

There are many things an envelope manufacturer can do to help a mailing operation maintain a high level of productivity. These include:

- Producing materials in a controlled environment,
- Packaging and shipping goods as soon as possible after manufacture,
- Packaging materials in boxes or cartons that won't buckle or collapse during transit and storage,
- Using boxes which match the size of the envelopes, eliminating the need for filler material.
- Neither over packing or unpacking—contents should be snug after filling.
- Using boxes that match the size of cartons, again to eliminate space fillers and loading boxes into cartons so that all envelopes face the same direction
- Using cartons that the machine operator can open quickly—Boxes should slide out easily onto the table in the inserter's staging area
- Shrink wrapping cartons or pallets to protect envelope materials against the weather and absorption of moisture during high humidity conditions

Handle with care.

Whenever material is in transit, handle it with reasonable care. This will pay rich dividends in terms of improved productivity. A few suggestions:

- Don't crash loaded pallets on shipping/receiving docks, in transport vans or in the final storage area
- Do block loaded pallets in transport vans to prevent damaged cartons
- Avoid exposing cartons to the elements; prolonged exposure to intense sunlight, high humidity and so on can compromise the “machinability” of materials
- Store material in a controlled environment away from moisture.

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- Do store materials in a controlled environment if possible.
- Do store cartons at least one 2cm away from masonry walls to prevent absorption of moisture. Store cartons on skids or shelves, but never directly on floors. Remember that a very dry environment promotes static accumulation, which causes material to cling together. Humid conditions may make paper limp and difficult to handle.
- Avoid storing envelopes next to radiators or heated air vents.
- Don't stack cartons too high; this can deform the cartons on the bottom and damage the envelopes.
- Do stack cartons so that all envelopes stand on edge. Rotate the stock; give material time to stabilize.
- Do control the inventory. Rotate the stock: use oldest stock first. Remember after 12 months stored in an optimum environment the glue on an envelope begins to degrade. This timescale can be much shorter dependent on storage conditions.

All seams should be securely bonded to the bottom flap without exhibiting any curl or ripple between the flaps. Envelope curl or twist should not exceed (5mm) when the envelope is placed on a flat surface. The envelope throat should be a maximum of (5mm) below the crease line at (19mm) from the side edges.

3.1. Envelope Window Requirements.

Patched window types cannot have any part of the window above the "V" in the back panel of the envelope. In these envelopes, the window shall be located 19mm minimum from the side, top and bottom of the envelope.

Open window envelopes are not supported.

Patch Glue Requirements - 19mm minimum and 1.6mm maximum.

The patch shall be a minimum of 6.4mm larger than the opening on all sides. The glue line shall be no more than 3.2mm from the inside of the opening on all sides. All window patches shall be flat, ripple free and bonded within 1.6mm of the top edge of the patch material and top edge of the window cut out(s). If the window patch area is 1/3 or more of the total area of the envelope's front panel, then the envelope must be provided for test and review.

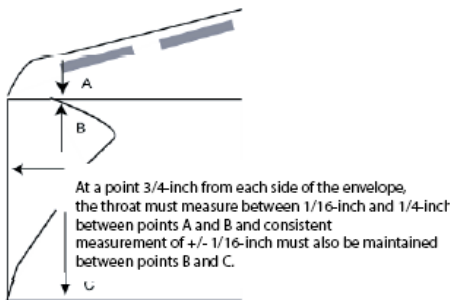
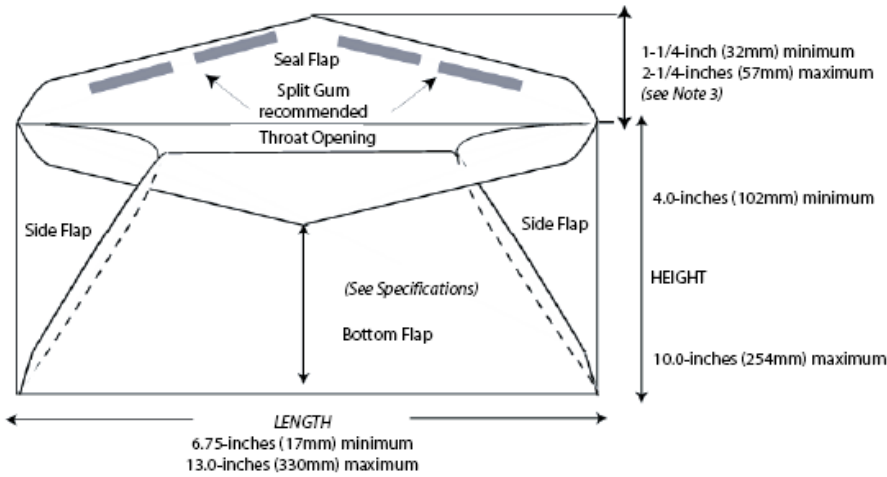
3.2. Throat Geometry

The flap defines the envelope throat geometry. The maximum flap depth is 57mm and the minimum distance from the lowest point on the flap to the base of the envelope is 38mm. Any flap/envelope dimension that does not meet these requirements must be provided for test / run ability review.

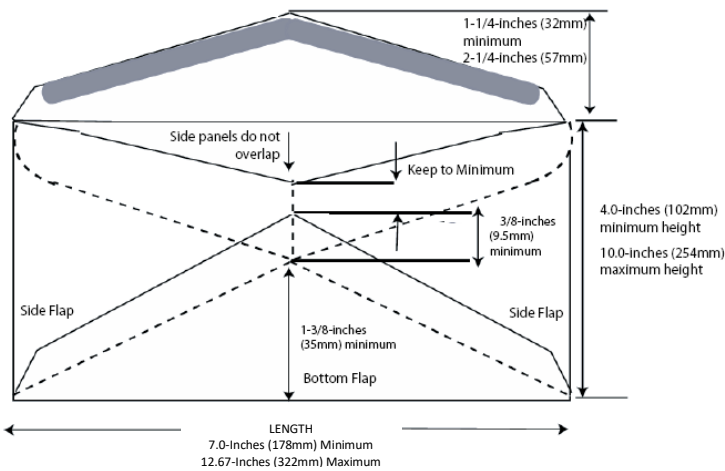
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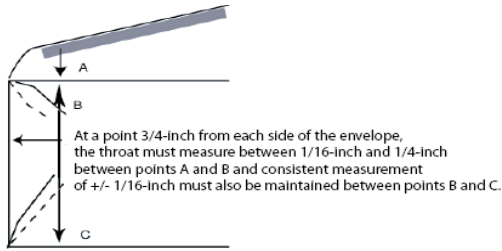
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DIAGONAL SEAM ENVELOPE SPECIFICATIONS

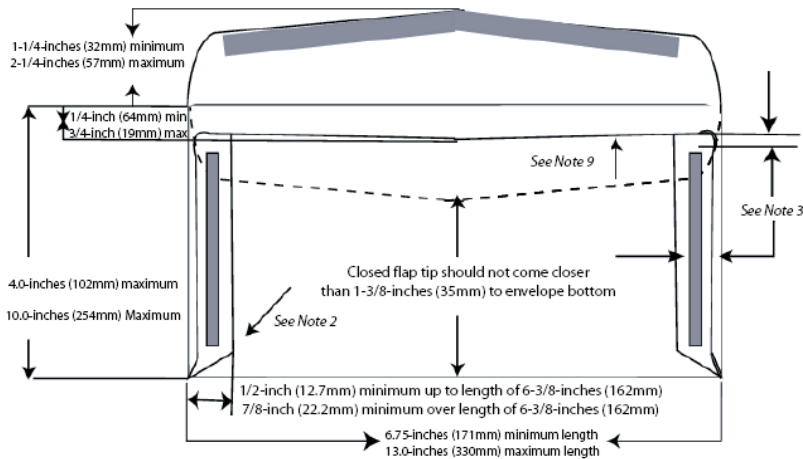


EXECUTIVE (MONARCH STYLE) ENVELOPE



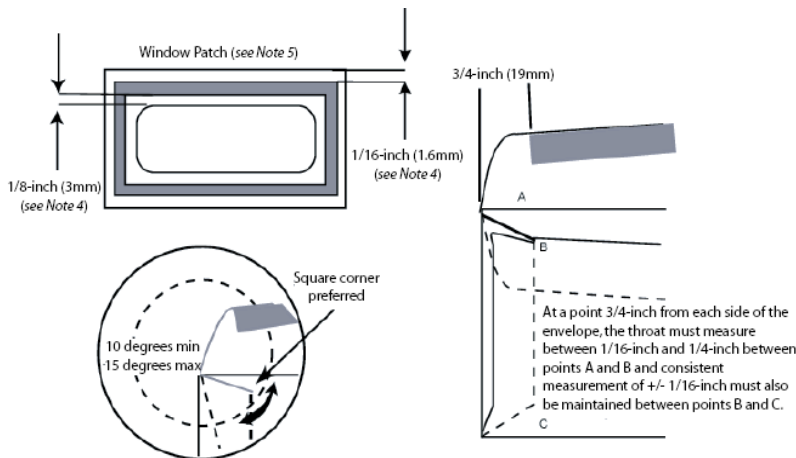


SIDE SEAM ENVELOPE



Side seams should be securely bonded to the back flap without any curl or ripple between back flap and side seams.

Please Note: Integrity Print require all envelope stock to be manufactured and supplied as outside seams.



Side seams should have the adhesive line within 1.6 mm of the top edge of the back and within 6.4 mm of the inner edge of the side seam.

All window patches should be flat, ripple free and bonded within 1.6 mm of the top edge of the patch material. If the window patch area is 1/3 or more of the total area of the envelope's front panel, then the envelope must be tested.

In those cases where any part of the side of the patch material is within 25.4mm from any envelope side edge, the following apply:

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- If the top of the patch material falls within 9.6 mm of the crease score line, raise the patch material to within 1.6 mm or closer to the crease line.
- Verify that the throat is at least 6.4 mm below the crease line at 19mm from the side edges. This is required to prevent the throat openers from tearing the patch.

4. Labelling, Packaging & Delivery

Poor packaging can play a major role in the run ability of inserts / envelopes. Please ensure the following guidelines are observed to avoid running problems during enclosing.

4.1. Labelling

All items for inserting should be labelled with the Integrity Print TM code. Boxes and outer packaging must be also labelled with the following information:

- TM Code.
- Quantity.
- Brief Description.
- Production Date.
- Supplier.

4.2. Packaging

- Inserts / Envelopes must be snugly fitted into their outer boxes to prevent movement of the contents and to prevent the contents becoming damaged.
- Inserts / Outer Envelopes must not be mixed together in a box or on a pallet.
- Inserts must not be banded in any way.
- Cellophane wrap must not be used to bundle inserts together.
- Booklets should be turned in boxes to keep stacks level.
 - 4pp / 6pp turned in 100s.
 - 8pp and above turned in 50s..
- In order to safeguard our employees, we require a maximum box weight of 5kg.
- Deliveries of materials should be supplied on pallets to the following specification:
 - 1200mm x 1000mm with enclosed perimeter that has 4-way forklift access.
 - Pallets must be in good condition and robust enough to easily support the product they carry.
 - Have Damp-proof paper between pallet and bottom layer of boxes.
 - Maximum stack height is 5 layers of boxes and not to exceed 1200mm.
 - Boxes should be shrink / stretch wrapped onto pallets to protect the consignment during transit.

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4.3. Goods In

Deliveries can be accepted by Integrity Print at the following address between 6am – 12pm, Monday to Friday. Tel: 01761 409254`

Integrity Print
Bay 9
Westfield Trading Estate
Midsomer Norton
Bath
BA3 4BS

Deliveries must be accompanied by a delivery note providing the following information:

- Booking Reference (if applicable).
- Stock reference (TM) code.
- Purchase Order number (if applicable).
- Accurate quantity.
- Material description.
- Name of printer.