



# Designing Letter and Reply Mail

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# Introduction

## Purpose

The Postal Service has five **mail processing** categories for mailpieces: letters, flats, machinable parcels, irregular parcels, and outside parcels. USPS assigns each mailpiece to one of these mail processing categories based on the physical dimensions and characteristics of the mailpiece using the longest dimension as the length, regardless of the placement or orientation of the delivery address on the piece. USPS standards exist so that customers will design mailpieces that can be effectively processed on our sorting machines.

Publication 25, *Designing Letter and Reply Mail* is intended to provide guidance for anyone who designs letter-size mailpieces, but especially those who want to prepare automation-compatible designs. Printers, graphic artists, forms designers, envelope manufacturers, and computer programmers will find useful information from basic addressing to technical specifications.

This publication is based on the *Mailing Standards of the United States Postal Service, Domestic Mail Manual (DMM)* which is the final authority on domestic mailing standards. The DMM is routinely updated.

The DMM contains the standards governing domestic mailing services and is available on the Postal Explorer website (see below) at [pe.usps.com](http://pe.usps.com). If you are not familiar with how the DMM is organized and the numbering system in the DMM a [tutorial](#) is available on the [Postal Explorer](#) website.

Notice 123, *Price List*, is the published list of USPS prices and is available on the [Postal Explorer website](#) at [pe.usps.com](http://pe.usps.com).

Some of the information in this publication is necessarily technical in nature. For additional assistance, please contact your local Post Office.

# More Information

## On-Line Resources

### Addressing

**Postal Addressing Standards (Publication 28)** – Describes addressing for the best service and is available online at: <http://pe.usps.com/text/pub28/welcome.htm>.

### Addressing Software

For information on addressing products and services, go to the RIBBS website at [ribbs.usps.gov](http://ribbs.usps.gov) or contact the National Customer Support Center (NCSC) at 1-800-238-3150.

### Domestic Mail

**Domestic Mail Manual (DMM)** – The Postal Service manual that contains the mailing standards governing domestic mail services, descriptions of mail classes, the conditions governing their use, and eligibility. The DMM is updated routinely and is available free of charge on the Postal Explorer website at [pe.usps.com](http://pe.usps.com).

### Latest News

**DMM Advisory** – The DMM Advisory keeps you informed about mailing issues that are important to your business. You will find updates to our mailing standards and prices, information about our Web tools, and helpful reminders about mailing issues. To subscribe to the DMM Advisory or to send comments and suggestions, email us at [dmmadvisory@usps.com](mailto:dmmadvisory@usps.com). To subscribe, simply indicate "subscribe" in the subject line.

**MailPro** – MailPro is a free bimonthly publication for mailing professionals. It contains information on current Postal Service programs and services, prices and classification, mailing success stories and industry news. To request MailPro or to change your mailing address, mail (include current mailing label) or e-mail your name, title, company name, complete delivery address and daytime phone number to:

#### **MailPro**

National Customer Support Center  
US Postal Service  
225 N. Humphreys Blvd, Ste 501  
Memphis, TN 38188-1001  
Email: [mncsc@usps.com](mailto:mncsc@usps.com)

**Postal Bulletin** – The official source for updates to policies, procedures, forms, and operational information about the Postal Service. Available on the Postal Explorer website at [pe.usps.com](http://pe.usps.com).

To subscribe, submit your credit card order by telephone by calling 1-800-STAMP-24.

## **Postal Explorer – [pe.usps.com](http://pe.usps.com)**

Postal Explorer is an online library of postal information designed for business mailers. It puts a wealth of postal information at your fingertips in an easy-to-use format. The powerful search feature lets you quickly find information in a single publication or across a range of publications. You can view a publication by clicking on the publication title.

Also available on the [Postal Explorer](http://pe.usps.com) website:

- [\*International Mail Manual \(IMM\)\*](#)
- [Domestic, international and business postage calculators](#)
- [ZIP Code Lookup](#)
- [Zone charts](#)
- [Postage statements](#)
- [Designing BRM and CRM templates \(\[http://pe/mpdesign/mpdf\\\_intro\\\_all.asp\]\(http://pe/mpdesign/mpdf\_intro\_all.asp\)\)](http://pe/mpdesign/mpdf_intro_all.asp)
- [Creating BRM artwork \(<https://www.usps.com/business/reply-mail-solutions.htm>\)](https://www.usps.com/business/reply-mail-solutions.htm)
- Other Postal Service publications
- Much more!

## **Prices**

**[Price List \(Notice 123\)](#)** – Retail and commercial prices for domestic and international services in a concise and accessible format. Available on the Postal Explorer website at [pe.usps.com](http://pe.usps.com).

## **[Quick Service Guides \(Publication 95\)](#)**

A collection of individual Quick Service Guides. Each Quick Service Guide provides a summary of the applicable standards in the Domestic Mail Manual ([DMM](#)). The Quick Service Guides summarize the mailing standards for a particular class of mail or preparation option and links to the [DMM](#). You can view the Quick Service Guides on the [Postal Explorer Home Page](#). Topics include:

- Retail Letters, Flats, and Parcels
- Commercial Letters and Postcards
- Commercial Flats
- Commercial Parcels
- Additional Services
- Basic Standards for All Mailing Services
- Special Standards
- Reference

## **Training**

### **[Mail Design Professional \(MDP\)](#)**

This is a self-study course to aid in designing mailpieces with an emphasis on automated mail processing. The course provides information on the classes of mail, mail processing categories (shapes), and basic presort. It is recommended for all mailers and

is available on the Business Mail Academy website at <http://nced.com/bma/>. Under *New* click the "Start Online Course" link.

## **Postal Groups, Activities, and People**

### **National Postal Forum**

The Postal Forum is an educational and trade show event for the mailing industry that is held annually at different locations throughout the nation. For more information, visit their website at [npf.org](http://npf.org).

### **Postal Customer Councils**

Most areas have a local Postal Customer Council (PCC), which can give you tips from experienced mailers who have successfully developed bulk mailing programs. PCCs have general meetings to discuss Postal Service issues. To find a PCC near you, go to "Find PCCs and Events Near You" at [usps.com/pcc](http://usps.com/pcc).

### **Postal Service Seminars**

The Postal Service offers seminars on direct mail at selected sites around the country. Your local business mail entry office can tell you when seminars are offered in your area. To find your local business mail entry office, go to [usps.com/ncsc/locators/find-bme.html](http://usps.com/ncsc/locators/find-bme.html).

## **Postal Service Specialists**

### **Postmasters**

Although your local postmaster should be able to help you with many basic questions about preparing your presorted standard mailing, there are other postal specialists to help you with more complex technical issues.

### **Business Service Network**

The Business Service Network (BSN) is a nationwide network dedicated to providing service support to the largest customers of the U.S. Postal Service. To find your local BSN representative, go to <https://ribbs.usps.gov/locators/find-bsn.cfm>.

### **Mailpiece Design Analysts**

Mailpiece Design Analysts (MDAs) specialize in the design of mail for effective processing on USPS automated equipment and they are resources for Intelligent Mail information. To find an MDA, go to <https://ribbs.usps.gov/mda/mda.cfm>.

### **Mailing Standards Specialists**

Located in various customer services districts of the U.S. Postal Service and supported by the business mail entry manager, these specialists are excellent resources for advice on DMM standards.

### **Business Mail Entry Managers**

Located in customer services districts and supported by the Pricing and Classification Service Center. These managers are experts on the regulations described in the DMM and can give you advice if you want to try something new. To find your district business mail entry office, go to <https://ribbs.usps.gov/locators/find-bme.cfm>.



## **Non-Postal Resources**

Some mail-related services are handled by private companies rather than by the Postal Service.

### **Mailing Lists**

To purchase or rent a mailing list, search for “mailing list” on the Internet or look under “Mailing Lists” in your local telephone directory.

### **Postage Evidencing Systems**

Postage meters and PC Postage products are collectively identified as “postage evidencing systems.”

#### **Vendors**

Product categories include postage meters and PC Postage products. Additional information on product categories and authorized providers is available online at [www.usps.com/postagesolutions](http://www.usps.com/postagesolutions). To lease a postage meter, search for “postage meter” on the Internet or look under “Mailing Equipment” in your local telephone directory.

### **Presort Service Bureaus**

To find a presort service bureau, search for “presort service” on the Internet or look under “Mailing Services” in your local telephone directory.

# 1 Letter-Size Basics

## Types of Letter-Size Mail

In addition to determining the mail process category using the weight and shape of the mailpiece, the Postal Service then classifies mailpieces by the way they are prepared. These classifications are based on how efficiently your mailpieces can be processed on Postal Service equipment and will fall under one of three categories:

- “**Automation**” letter-size mailpieces are machinable and contain correct delivery point information in the imprinted Intelligent Mail barcodes (IMb). Letters and cards can receive postage discounts if they meet automation standards.
- Mailpieces that can be sorted on Postal Service processing equipment are considered “**machinable**”. Sorting mail on automated equipment is more efficient than manual processing. Properly prepared machinable pieces can qualify for lower prices but not for Automation prices because they do not have a qualifying barcode.
- Mailpieces are “**nonmachinable**” if they cannot be processed by Postal Service equipment. Nonmachinable pieces must be sorted manually. Higher postage prices may apply due to the additional postal handling needed.

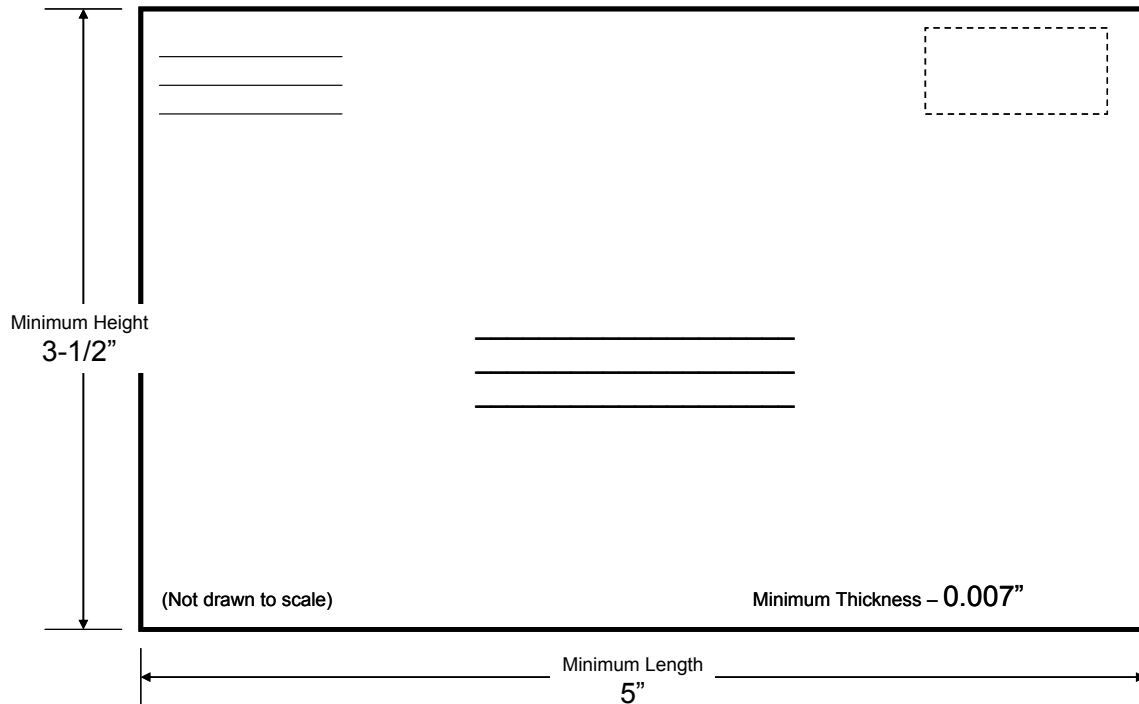
## Physical Standards for Letters

### Dimensional Standards for Letters

Letter-size mail is:

- a. Not less than 5” long, 3-1/2” high or 0.007” thick.
- b. Not more than 11-1/2” long, 6-1/8” high or 1/4” thick.
- c. Rectangular, with four square corners and parallel opposite sides. Letter-size, card-type mailpieces made of cardstock may have finished corners that do not exceed a radius of 1/8”.
- d. Within weight standards:
  - Retail Letters: maximum 3.5 ounces. First-Class Mail letter-size pieces over 3.5 ounces are charged at the large envelope (flat) prices.
  - Machinable and Automation Letters and Cards
    - Automation enveloped letters and cards – maximum 3.5 ounces.
    - Machinable enveloped letters and cards – maximum 3.3 ounces.
    - Booklets and folded self-mailers – maximum 3 ounces.
    - Critical Mail letters – maximum 3 ounces.

**Exhibit 1 – 1: Minimum letter dimensions, mailpieces 1/4" thick or less**



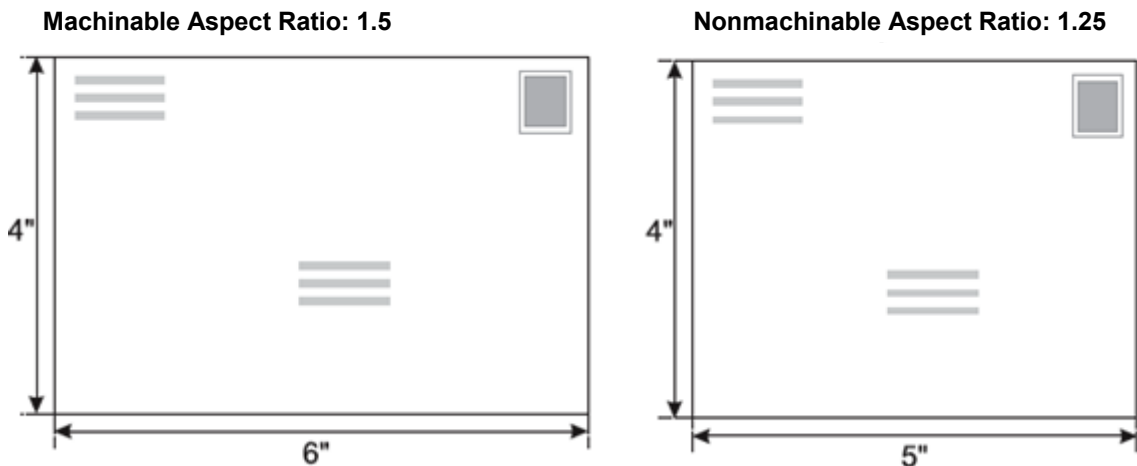
**Length and Height**

To determine the mailability or machinability of a letter-size mailpiece, the length is the dimension parallel to the delivery address as read; the height is the dimension perpendicular to the length. Because the location of the delivery address on a letter-size mailpiece determines which dimensions are the length and height, the placement of the address may make a piece nonmailable or nonmachinable.

**Aspect Ratio**

The aspect ratio is the length of the mailpiece divided by the height. For a letter-size piece to be machinable, this number must be between 1.3 and 2.5, inclusive. This ensures that the mailpiece will travel properly on our machinery. Pieces that are too tall relative to their length tend to tumble during processing.

**Exhibit 1 – 2: Examples of Aspect Ratio (not drawn to scale)**



## **Address Placement for Letters**

### **Placement of the Delivery Address**

The placement of the delivery address on a letter-size mailpiece may make a piece nonmailable or nonmachinable.

A letter-size mailpiece is **nonmailable** if:

- the length (the dimension parallel to the delivery address) is less than 5"
  - Example: For a letter-size piece that is 4" by 6", if the delivery address is parallel to the 4" dimension, it is 4" long, which is less than the minimum required length of 5". This piece is nonmailable.
- the height (the dimension perpendicular to the length) is less than 3-1/2"
  - Example: For a mailpiece (including letter size) that is 3" by 6", if the delivery address is parallel to the 6" dimension, it is 6" long and 3" high, which is less than the minimum required height of 3-1/2". This piece is nonmailable.

A letter-size mailpiece is **nonmachinable** if:

- the aspect ratio (length divided by height) is not within 1.3 to 2.5, inclusive
  - Example: For a letter-size piece that is 5" by 8", if the delivery address is parallel to the 5" (shorter) dimension, the piece is 5" long and 8" high. The aspect ratio of this piece ( $8"L \div 5"H$ ) is 0.625, which is not within 1.3 to 2.5, so it is mailable but as a nonmachinable letter.

### **Proper Delivery Address Placement**

On a letter-size piece, the entire delivery address should be within the optical character reader (OCR) read area defined below and shown in Exhibit 1-3: *OCR Read Area*.

**Having the delivery address within this area gives the USPS the best opportunity to read the address and to apply a correct routing barcode to your mailpiece.**

- a. Left: at least 1/2" from the left edge of the piece.
- b. Right: at least 1/2" from the right edge of the piece. Recommend 3/4" due to lead edge fold over.
- c. Top: 2-3/4 inches from the bottom edge of the piece.
- d. Bottom: at least 5/8" from the bottom edge of the piece.

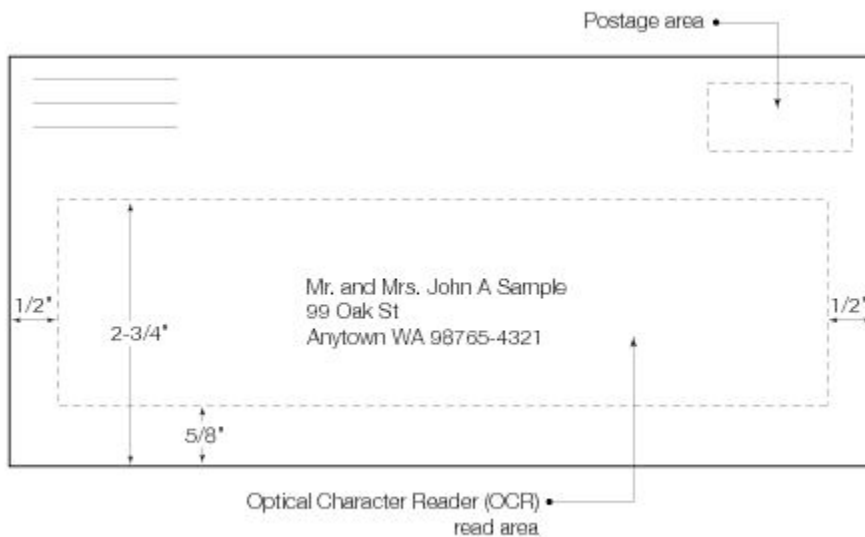
This space is known as the Optical Character Reader (OCR) Read Area (see Exhibit 1–3, *OCR Read Area*).

## Proper Return Delivery Address Placement

The return address tells the USPS where the sender of a mailpiece wants it returned if the piece cannot be delivered. The return address is placed in the upper left corner of the address side of the mailpiece or the upper left corner of the addressing area.

- a. Left: at least 1/2" from the left edge of the piece.
- b. Top: no more than 6 inches from the bottom edge of the piece.

### Exhibit 1 – 3: OCR Read Area



# 2

## Machinable and Automation Letters and Cards

DMM 201.3

### Physical Standards for Machinable and Automation Letters and Cards

#### **Basic Standards for Automation Letters and Cards**

Letters and cards claimed at any machinable, automation, or Standard Mail carrier route price must meet the standards in the DMM. Unless prepared as a folded self-mailer, booklet, or postcard, each machinable or automation letter must be a sealed envelope (preferred method) or, if unenveloped, must be sealed or glued completely along all four sides.

#### **Paper Weight**

Mailpieces should be constructed from high tear-strength paper stock. Envelopes should be made of paper with a minimum basis weight of 40-pound book-grade paper. All references in the DMM to paper basis weight are for book-grade paper unless otherwise stated. The conversion table in Exhibit 3–1 provides a paper basis weight cross-reference.

#### **Exhibit 2 – 1: Paper Basis Weight Conversion Table**

Paper basis weight is based on the weight of 500 sheets of:			
• 25 x 38 inch sheets of book-grade paper;			
• 17 x 22 inch bond-grade paper;			
• 20 x 26 inch sheets of cover-grade paper;			
• 24 x 36 inch sheets of newsprint.			
For example, if 500 sheets of book-grade paper weigh 39 pounds, the paper is considered 39-pound book paper.			
Equivalent Values			
Book Weight	Bond Weight	Cover Weight	Newsprint Weight
39	15	21	35
40	16	22	36
50	20	27	45
55	22	30	50
60	24	33	55
70	28	40	64
75	30	41	68
80	31	44	73
90	36	50	82
100	40	56	91
110	44	60	100
128	50	70	116

## **Dimensions and Shape**

Each machinable or automation letter-size piece must be rectangular and must meet the following standards (see Chapter 4 for booklets and folded self-mailers):

- a. For height, no more than 6-1/8" or less than 3-1/2" high.
- b. For length, no more than 11-1/2" or less than 5" long.
- c. For thickness, no more than 1/4" or less than:
  1. 0.007" thick *if no more than 4-1/4" high and 6" long; or*
  2. 0.009" thick *if either more than 4-1/4" high or 6" long, or both.*

## **Maximum Weight, Machinable and Automation Letters and Cards**

The following maximum weight limits apply:

- a. Machinable enveloped letters and cards - 3.3 ounces.
- b. Automation enveloped letters and cards - 3.5 ounces.
- c. Booklets and folded self-mailers - 3 ounces.
- d. Critical Mail letters - 3 ounces.

## **Heavy Letter Mail (over 3 ounces)**

Heavy letter mail (letter-size pieces over 3 ounces) must be prepared in a sealed envelope, may not contain stiff enclosures, and must have a delivery point routing code in an Intelligent Mail barcode or a delivery point POSTNET barcode in the address block.

## **Postcard**

Postcards must be prepared from paper stock meeting the industry standard for a basis weight of 75 pounds or greater, with none less than 71.25 pounds (measured weight for 500 25" by 38" sheets). High Bulk stock is not recommended. The stock must be free from groundwood unless coated with a substance adding to the stock's ability to resist an applied bending force. A double postcard not prepared with all edges sealed must have the folded edge at the top or bottom. The open edge of the double postcard must be parallel to the address and must be secured with one tab (or other permitted closure) in the middle of the length. Pieces claimed at First-Class Mail automation card prices must meet the standards in the [DMM](#).

## **Aspect Ratio**

The aspect ratio (length of the mailpiece divided by height) must be between 1.3 and 2.5, inclusive. Length and height are defined in [Chapter 1](#).

## **Wraps and Closures**

An automation-compatible letter-size mailpiece may not be polywrapped, polybagged, or shrinkwrapped; have clasps, strings, buttons, or similar closure devices; or have protrusions that might impede or damage the mail or mail processing equipment.

## **Staples and Saddle Stitching**

Staples or saddle stitching may be used only on booklet-type mailpieces to join the bound edge (spine). Inserted staples or stitching must parallel the bound edge, set

tightly and securely, and have no protrusions that might impede or damage the mail or mail processing equipment.

### **Rigid and Odd-Shaped Items**

Rigid items (e.g., pens, pencils, keys, bottle caps) are prohibited within machinable and automation letter-size mailpieces. Reasonably flexible items (e.g., credit cards) are permitted. Odd-shaped items (e.g., coins and tokens) are permitted if firmly affixed to and wrapped within the contents of the mailpiece and envelope to allow for automated processing.

## **Flexibility Standards for Automation Letters**

### **Machinability**

To ensure transport through automated mail processing machines, a mailpiece and its contents must bend easily when subjected to a transport belt tension of 20 pounds around an 11"-diameter drum.

### **USPS Services for Flexibility Testing**

A mailer requesting flexibility testing for letter-size mailpieces must submit at least 5 mailpieces and a written request to their local postmaster or business mail entry manager for submission to the Pricing and Classification Service Center (PCSC) at least 6 weeks before the mailing date. The request must describe mailpiece contents and construction, number of pieces being produced, and preparation level. The PCSC will evaluate the piece and, if warranted, will instruct the mailer to submit samples to USPS Engineering for testing. The PCSC advises the mailer of its findings. If the mailpiece is approved, the letter includes a unique number identifying the piece and serves as evidence that the piece meets the relevant standards. A copy of the letter must accompany each postage statement submitted for mailings of the approved piece. If requested by the USPS, the mailer must show that pieces presented for mailing are the same as those approved.

## **Attachments on Letter-Size Mailpieces**

### **Use**

A label, sticker, perforated pocket, or release card may be placed on a letter-sized mailpiece that is eligible for automation letter prices, including barcoded carrier route letters meeting automation standards. Release cards and perforated pockets may not be affixed to pieces mailed at First-Class Mail card prices; other restrictions on attachments to cards may apply. A Standard Mail or Periodicals letter with a label, sticker, release card or perforated pocket must meet additional standards these attachments may be:

- a. A label or sticker less than 0.007" thick, and a perforated pocket other than a repositionable note affixed as follows:
  1. A permanent label or sticker, or perforated pockets (designed not to be removed or relocated), affixed directly to the outside of the mailpiece with permanent adhesive.



2. A relocatable label, to be placed on the outside of, or on the contents of, a reply mailpiece.
- b. Up to two release cards, each at least 0.007" and no more than 0.012" thick, secured to a letter with a liner or backing under DMM 201.3.
- c. On pieces mailed at First-Class Mail, Periodicals, or Standard Mail prices, only if permitted by the applicable content and eligibility standards.

### **Pressure-Sensitive Label**

Any pressure-sensitive label or sticker affixed directly to a mailpiece before mailing must have a minimum peel adhesion to stainless steel of 8 ounces/inch. This standard does not apply to pressure-sensitive labels provided by the USPS to label bundles to sortation levels.

### **"Sandwich" Label**

A face stock/liner label ("sandwich" label) is a two-part unit with a face stock (top label) attached to a liner (bottom label) affixed to the mailpiece. The face stock must have a peel adhesion value of at least 2 ounces/inch with respect to the liner label and at least 8 ounces/inch when reapplied to stainless steel.

### **Letter-Size Piece with Attached Release Card**

A letter-size mailpiece, with one or two attached release cards, must have the following characteristics:

- a. Be between 8" and 9-1/2" long (inclusive). With one release card affixed, be between 4" and 6" high (inclusive); with two release cards affixed, be between 5-1/2" and 6" high (inclusive).
- b. No address element, including any address block barcode, may be closer than 1-1/2" to the right edge of the mailpiece.
- c. The surface smoothness of all letter-size pieces must be a maximum of 190 Sheffield Units.
- d. Enveloped letters must be made of paper with a minimum 60-pound book grade paper and have a maximum thickness of 1/8" (0.125"). Window envelopes must have only one closed panel address window, no larger than 1-1/2" x 4-1/4".
- e. Card-type letters, not mailed at card prices, have a maximum thickness of 0.025" as mailed.
- f. All letter-size pieces other than enveloped letters and card-type pieces (such as folded self-mailers and booklets) must have a maximum thickness of 0.10" as mailed. Mailpieces with two affixed release cards must meet the following additional conditions:
  1. Pieces requiring tabs must be sealed with 1-1/2" non-perforated tabs, unless larger tabs are required by standards for the specific mailpiece design.
  2. Booklets must have a minimum cover weight of 70-pound book-grade paper

3. Folded self-mailers must have a minimum cover weight of 100-pound book-grade paper.
- g. Content insert shift must be no more than 5/8" horizontally and no more than 1/4" vertically.
- h. Release cards must meet the standards in the DMM.

### **Standards for Release Cards**

One or two release cards, each at least 0.007" thick and no more than 0.012" thick, attached to a letter-size mailpiece must:

- a. Be rectangular, but allowed with finished corners having a radius of at least 1/8" up to 1/2".
- b. Be between 2" and 2-1/2" (inclusive) high, and between 3" and 3-1/2" (inclusive) long. Affix each card with either edge parallel to the length of the mailpiece. Affix two cards on the same side of the mailpiece under these conditions:
  1. Stack cards vertically, one above than the other.
  2. Do not affix the cards side by side across the mailpiece length.
- c. Be affixed by machine to ensure adequate adhesion. Manually affixed attachments are not allowed.
- d. Be affixed 1" (+/- 1/8") from the bottom of the mailpiece and must not interfere with readability of the address, barcode, or postage information. When affixing two cards to a mailpiece, these additional conditions apply:
  1. When affixing two cards on the address side, maintain a space of at least 1/2" from the leading edge, the trailing edge and the top edge.
  2. When affixing two cards to the non-address side, the right edge of a card must be placed between 5" and 6" from the leading edge of the mailpiece, but no closer than 1/2" from the trailing edge. Maintain a space of at least 1/2" from the top edge.
- e. Be affixed to a liner (backing) and meet the following adhesion standards:
  1. Adhesive used to affix the backing to the mailpiece must have a peel adhesion of at least 2 pounds/inch to stainless steel with a 20-minute dwell time, at 300"/minute at 90 degrees per ASTM test D3330F.
  2. Adhesive used to attach the release card to the backing must have a peel adhesion of at least 1.5 ounces/inch to stainless steel with a 30 minute conditioning time, at 300"/minute at 90 degrees per ASTM test D3330F.

### **Letter-Size Pieces with Perforated Pockets**

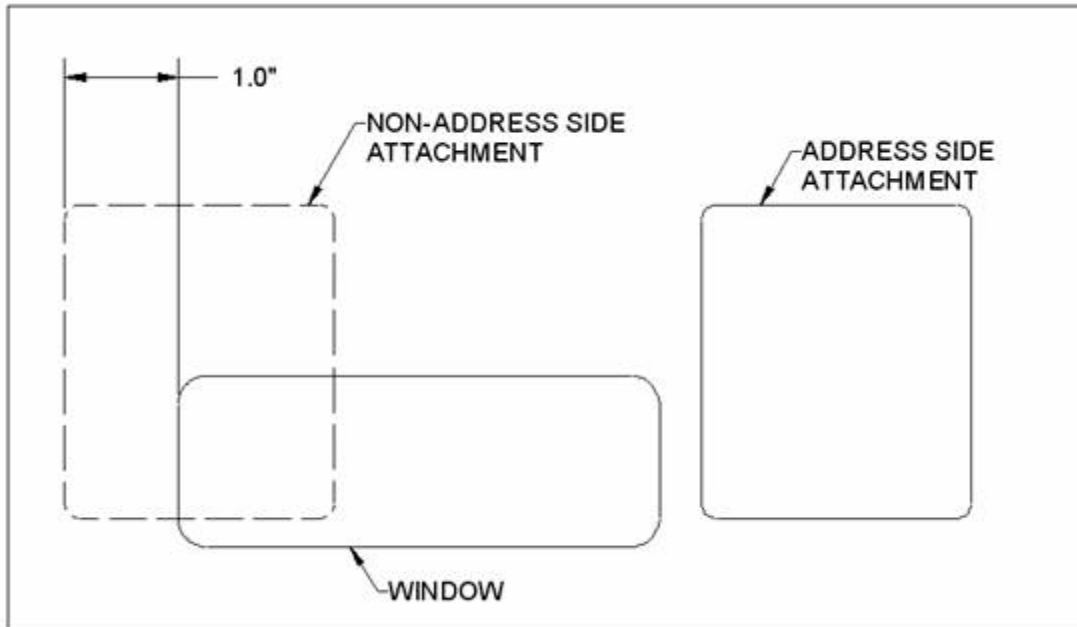
Perforated pockets are permanent attachments affixed to letter-sized mailpieces that may be opened to reveal a small printed insert. Advertising may be printed on the components used to create a perforated pocket and on the printed insert within. Perforated pockets may not be used to conceal or contain matter bearing personal information except as provided in the DMM. Perforated pockets may be used on letter-

size Standard Mail and Periodicals and are not considered sealed against Postal inspection. When affixed to Periodicals mail, advertising printed on the perforated pocket and any inserted matter is counted as part of the total advertising content of the host publication.

Pockets may be used in lieu of labels to bear a permit imprint indicia showing that postage is paid if indicia information does not appear on the perforated panel or on the perforations used to create the perforated panel. A maximum of two perforated pockets are permitted on eligible letter-size mailpieces that have the following characteristics:

- a. Be between 8" and 9-1/2" long (inclusive).
- b. Be between 4" and 5-1/2" high (inclusive).
- c. Mailpieces must be prepared of book grade paper or equivalent with a minimum weight of:
  1. Envelopes - 60 pound
  2. Booklets - 70 pound
  3. Folded Self-Mailers - 100 pound
  4. Oversized card-type letters paid at letter prices must be at least .012" in thickness.
- d. Perforated pockets may be affixed to the non-addressed side of windowed envelopes having only one closed panel address window.
- e. The trail edge of the perforated pocket must be placed 1" from the trailing edge of the address side window. See Exhibit 2-2.
- f. If tabs are used to seal a folded self-mailer prepared with perforated pockets the folded self-mailer must be sealed with 1-1/2" non-perforated tabs placed 1" from the top on the leading and trailing edges.

**EXHIBIT 2-2: Perforated Pocket Placement**



## **Standards for Perforated Pockets**

Perforated pockets may be affixed on a letter-size mailpiece when the following conditions are met:

- a. The perimeter of the pocket is affixed with permanent glue with a minimum adhesive strength of 2 lbs/inch to stainless steel with 20-minute dwell time at 300 inches/minute at 90 degrees per ASTM Test D3330F.
- b. The attached material has a minimum tear strength of 100gf (machine direction) and (cross direction) per TAPPI T414.
- c. The cut/tie ratio for perforation is 1:1 with a minimum tie size of 1 mm. One double cut may be made at the lower trailing edge corner of the perforated panel of the pocket.
- d. The pocket is:
  1. Between 1-1/2" and 2-3/4" in both height and length.
  2. Has an affixed area no more than 0.012" thick and a perforated panel no more than 0.03" thick. Perforated pockets may not exceed the thickness of the host mailpiece. They may not cause the host to have an uneven surface and must not interfere with readability of the address, barcode, or postage information.
- e. The length of each pocket is parallel to the length of the host mailpiece.
- f. Pockets attached to the address side of a mailpiece are:
  1. At least 1" from the bottom and leading edge.
  2. At least 1/2" from the top and trailing edge.
- g. Pockets attached to the non-addressed side of the mailpiece are:
  1. At least 1" from the bottom edge.
  2. At least 1/2" from the top.
  3. At least 5" from the left edge but no closer than 1/2" from the right edge.
- h. Two perforated pockets are affixed on the same side of the mailpiece under these conditions:
  1. Stack perforated pockets vertically, one above than the other. Do not affix the pockets side by side across the mailpiece length.
  2. A space up to 1/2" is allowed between pockets.

# 3

## Nonmachinable Letters

DMM 201.2

### Physical Standards for Nonmachinable Letters

#### **Criteria for Nonmachinable Letters**

A letter-size piece is nonmachinable if it does not meet the automation or machinability standards. Windows in paper envelopes do not make mailpieces nonmachinable. Attachments do not render mailpieces nonmachinable if allowed by eligibility standards for the class of mail. Additionally, a letter-size piece is nonmachinable if it weighs more than 3.3 ounces, except that weights up to 3.5 ounces are allowed for letters eligible for automation prices.

#### **Additional Criteria for First-Class Mail Nonmachinable Letters**

Letter-size pieces (except cards) that meet one or more of the nonmachinable characteristics are subject to the nonmachinable surcharge. All letter-size pieces over 3.5 ounces are prepared as letters but charged the flat-size prices.

#### **Additional Criteria for Standard Mail Nonmachinable Letters**

Nonmachinable prices apply to Standard Mail letter-size pieces that have one or more of the nonmachinable characteristics. Mailers must prepare all nonmachinable letters as described in the DMM.

#### **Additional Criteria for Periodicals Nonmachinable Letters**

Non-barcoded letter prices apply to Periodicals letter-size pieces that have one or more of the nonmachinable characteristics.

#### **Priority Mail Express, Priority Mail, and Critical Mail Letters**

Mailers are encouraged to design and produce Priority Mail Express and Priority Mail letter-size pieces as machinable letters. Critical Mail letter-size pieces that do not meet machinable letter standards are not eligible for Critical Mail letter prices, but are eligible for Priority Mail Commercial Plus Flat Rate Envelope prices.

#### **Nonmachinable Criteria**

A letter-size mailpiece is considered nonmachinable if it has one or more of the following characteristics:

- a. Has an aspect ratio (length divided by height) of less than 1.3 or more than 2.5.
- b. Is polybagged, polywrapped, enclosed in any plastic material, or has an exterior surface made of a material that is not paper. Windows in envelopes made of paper do not make mailpieces nonmachinable. Attachments allowable under applicable eligibility standards do not make mailpieces nonmachinable.
- c. Has clasps, strings, buttons, or similar closure devices.
- d. Contains items such as pens, pencils, keys, or coins that cause the thickness of the mailpiece to be uneven; or loose keys or coins or similar objects not affixed to the contents within the mailpiece. Loose items may cause a letter to be nonmailable when mailed in paper envelopes.

- e. Is too rigid (does not bend easily when subjected to a transport belt tension of 20 pounds around an 11" diameter turn).
- f. Is more than 4-1/4" high or 6" long and less than 0.009" in thickness.
- g. Has a delivery address parallel to the shorter dimension of the mailpiece.
- h. Is a folded self-mailer, booklet, or unenveloped letter that is not prepared according to DMM 201.3.

### **Odd-Shaped Items in Paper Envelopes**

Pens, pencils, key rings, bottle caps, and other similar odd-shaped items are not permitted in letter-size or flat-size paper envelopes unless they are wrapped within the other contents of the envelope to streamline the shape of the mailpiece and prevent damage during postal processing. If an odd-shaped item is not properly wrapped, it could burst through the envelope and cause injury to employees and damage to USPS processing equipment. Odd-shaped items that are properly wrapped within paper envelopes and sent at letter prices may be subject to the nonmachinable surcharge for First-Class Mail letters or the nonmachinable prices for Standard Mail letters.

### **Handling, Content, and Extra Service**

Certain markings may be used to identify handling, content, and extra service. Unauthorized markings not designating price, class, address, handling, content, or extra service are not permitted. Extraneous information, which can be confused with ZIP Codes, may not be placed next to or directly under the last line of the delivery address.

### **Window Envelope**

For all letter-size mail in window envelopes, every character in the delivery address, including any Intelligent Mail barcode, marking, or endorsement, must be completely visible through the window throughout the full range of movement of the insert bearing the delivery address. Any window envelope used for letter-size mail claimed at automation prices or for letter-size mail claimed at Enhanced Carrier Route High-Density or Saturation letter prices must meet the barcoding standards for letters. Any window envelope used for letter-size mail must meet the following additional standards:

- a. The address and any Intelligent Mail barcode visible through the window must be printed on white paper or paper of a very light color.
- b. A clear space of at least 1/8" is required between the address block, which includes any optional endorsement line, and the top, bottom, and left and right edges of the address window, and must remain when the insert is moved to its full limits in each direction within the envelope to ensure efficient processing and delivery. See DMM 202.5 (letters) for barcode clearances when the address block contains a barcode. For non-automation price mail, the bottom edge of the address window must not extend more than 1/8" into the barcode clear zone. Any letter-size envelope containing a window that intrudes into the barcode clear zone is not eligible for multi-line optical character reader (MLOCR) or remote video encoding (RVE) *FASTforward* processing options for the Move Update standard.
- c. Window cover material, if used over the address window, must be made of a non-tinted clear or transparent material (e.g., cellophane, polystyrene, or

- glassine) and must permit the address, as viewed through the window material, to meet the print contrast ratio (PCR) standards to ensure efficient processing and delivery. All edges of the window cover material must be glued securely to the envelope. The bottom edge of an address window must be at least 1/2" (5/8" preferred) from the bottom edge of the envelope.
- d. For letter-size mail, the delivery address window must be parallel with the longest edge of the envelope.
  - e. For Registered Mail, the opening on a window envelope must be covered.

**Green Diamond Border Envelope**

An envelope or card bearing a green diamond border must be used only for First-Class Mail. Any envelope or card bearing a green diamond border is charged the appropriate First-Class Mail price, regardless of mail content or of requested class or service. When printed on letter-size mail, the border must not enter the OCR read area or barcode clear zone unless a delivery point Intelligent Mail barcode appears in the address block.

# 4 Booklets & Folded Self-Mailers

DMM 201.3

## **Definition**

Booklets must have a bound edge (spine.) Sheets that are fastened with at least two staples in the manufacturing fold (saddle stitched), perfect bound, pressed-glued, or joined together by another binding method that produces a spine where pages are attached together are considered booklets. Booklets are open on three sides before sealing, similar in design to a book. In general, booklets must be uniformly thick. Large bound booklets that are folded for mailing may qualify for automation and machinable prices if the final mailpiece remains nearly uniform in thickness and conforms to all other automation standards.

## **Paper**

Booklet covers generally must be made with a minimum paper basis weight of 60-pounds or equivalent. Minimum basis weights are higher for some designs.

## **Physical Standards for Booklets**

Booklets must be:

- a. Height: not more than 6" or less than 3.5" high.
- b. Length: not more than 10.5" or less than 5" long. See Exhibits 6–1 through 6–7 for some booklet designs with shorter maximum lengths.
- c. Thickness: not more than 0.25" or less than 0.009" thick.
- d. Weight: not more than 3 ounces.
- e. Aspect ratio: within 1.3 to 2.5.

## **General Booklet Design and Sealing**

The position of the final fold and intermediate fold (or spine) for letter-sized booklets varies according to the specific design of the mailpiece. Open edges can be sealed with tabs, glue lines, or glue spots. (Except for the simple spine wallet-style design with a height of 4" and a maximum length of 8") tabs used as seals on the leading edge of small booklets less than 5" high may be placed closer to the top and bottom edges than shown in Exhibits 4–2 through 4–5 and may overlap in some cases. See Exhibits 4–2 through 4–8 for design and sealing standards by type of design.

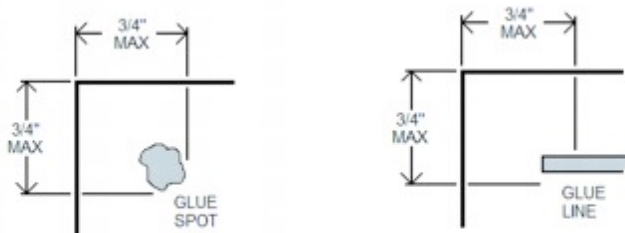


## **Tabs, Tape, and Glue**

Tabs on booklets must be at least 1-1/2" in width and must not contain perforations. The tab placement standards are subject to 1/4" variance in either direction. Tabs may be made of opaque paper, translucent paper, vinyl or plastic. Cellophane tape may be used as a closure. The following standards apply:

- a. Translucent paper tabs should be made of paper with a minimum of 40-pound basis weight with a tear strength of at least 28 grams of force in either the machine direction (MD) or cross direction (CD).
- b. Opaque paper tabs should be made of a minimum of 60-pound basis weight paper with a tear strength of at least 56 grams of force in either the machine direction (MD) or the cross direction (CD).
- c. When a barcode clear zone is required, tabs in the barcode clear zone must have a paper face meeting the standards for background reflectance and, if the barcode is not preprinted by the mailer, the standards for acceptance of water-based ink apply.
- d. Vinyl tabs and cellophane tape closures are not acceptable within the barcode clear zone. Straight cut is preferred but if saw-tooth cut uses, placement should be perpendicular to the letter's edge.
- e. Tabs must be tight against the edge of the mailpiece. A maximum 1/16" overhang is recommended.
- f. Glue spots may be used in lieu of tabs (as indicated in Exhibits 4–1 through 4–5) and must be placed within 3/4" of the open edges.
- g. Continuous glue lines may be used as cover-to-cover seals for specific designs. When using glue as a sealing method, it must be placed along the entire length of the open edge and end no more than 3/4" from the open ends unless standards require use of a continuous 1/2" wide glue line under h.
- h. Continuous, 1/4" to 1/2" wide, glue lines must be placed along the entire length of the open edge and end within 1/16" of the open ends. The selvage along the open edge must not exceed 1/16". Glue lines must be created with a permanent adhesive that is not tacky when dry.

**Exhibit 4 – 1: Glue Spot and Glue Line Placement**



## **Simple Spine**

The spine forms the bottom edge of the mailpiece. The length or method used to seal the booklet determines the weight of the paper forming the cover.

### **EXHIBIT 4 – 2: SIMPLE SPINE BOOKLETS**

#### **SIMPLE SPINE BOOKLETS**

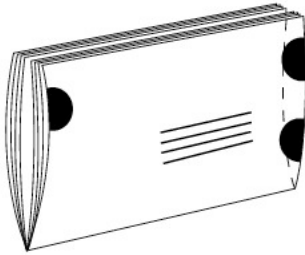
Maximum weight – 3 ounces

Maximum height – 6"

Maximum length – 9.5" unless noted

Cover paper weight – 80-pound paper unless noted: see Exhibit 3–1.

#### **Basic**



Cover:

5" to 9" long at least 50-pound paper

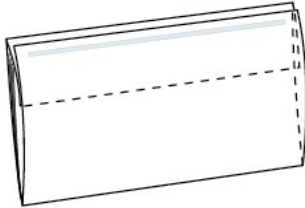
Over 9" up to 10.5" at least 60-pound paper

The front cover may be up to a maximum of 0.25" shorter than pages and rear cover.

Non-perforated 1.5" tabs.

Place one tab on the leading and trailing edges within 1" from the top; position one tab on the lower leading edge 0.5" from the bottom.

#### **Internal Flap**



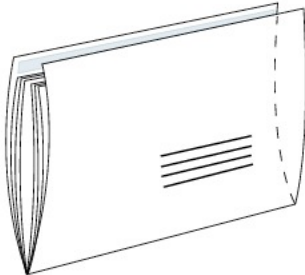
Cover:

Minimum 80-pound paper

Extended front folded over enclosed pages to create a non-perforated inner flap. Flap sealed inside of back cover.

Seal with a continuous glue line along flap (preferred) or 1" glue spots.

#### **Cover-to-Cover**



Cover:

Minimum 80-pound paper

Cover extends no more than 5/8" beyond inner pages.

Seal with a continuous glue line along flap (preferred) or 1" glue spots.

### Exhibit 4 – 3: LIGHTWEIGHT SIMPLE SPINE BOOKLETS

#### LIGHTWEIGHT SIMPLE SPINE BOOKLETS

Maximum weight – 0.8 ounce

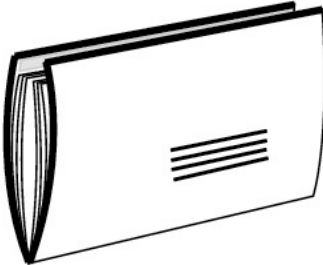
Maximum height – 6”

Maximum length – 10.5”

Cover paper weight – 70-pound paper unless noted: see Exhibit 3–1.

#### Cover-to-Cover

Cover extends no more than 5/8” beyond inner pages.  
Seal with a continuous glue line.



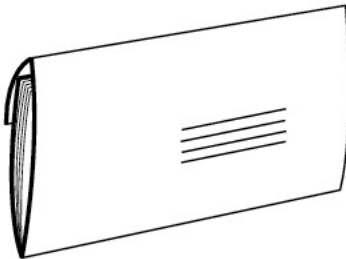
#### External Flap

Addressed side of the cover extends over all pages on the back to create a flap.

Flap length: at least 1.5" wide when measured down from the top edge. May be longer, but cannot be closer than 1" from bottom edge.

Flap attaches to the outside of the non-addressed side of the cover.

Seal with a continuous glue line.



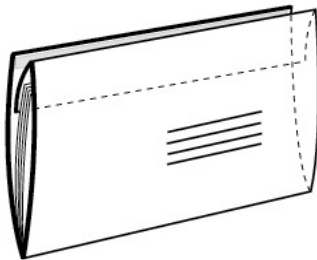
#### Internal Flap

Addressed side of the cover extends over internal pages to create an inside flap.

Flap length: at least 1.5" wide when measured down from the top edge.

Flap attaches to the inside of the non-addressed side of the cover.

Seal with a continuous glue line.



## EXHIBIT 4 – 4: MID-WEIGHT SIMPLE SPINE BOOKLETS

### MID-WEIGHT SIMPLE SPINE BOOKLETS

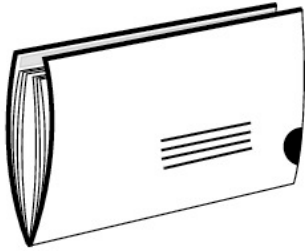
Weight – over 0.8 ounce up to 1.6 ounces

Maximum height – 6”

Maximum length – 10.5”

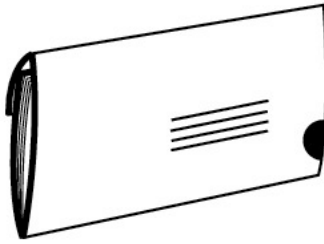
Cover paper weight – 70-pound paper unless noted: see Exhibit 3–1.

#### Cover-to-Cover



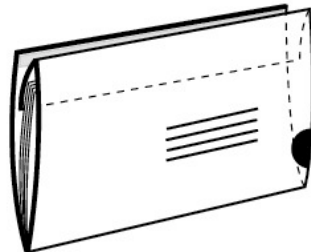
Cover extends no more than 5/8” beyond inner pages.  
Seal with a continuous glue line and one non-perforated tab 0.5” from the bottom leading edge. Minimum tab size: 1.5”.

#### External Flap



Addressed side of the cover extends over all pages on the back to create a flap.  
Flap length: at least 1.5” wide when measured down from the top edge. May be longer, but cannot be closer than 1” from bottom edge.  
Flap attaches to the outside of the non-addressed side of the cover.  
Seal with a continuous glue line and one non-perforated tab 0.5” from the bottom leading edge. Minimum tab size: 1.5”.

#### Internal Flap



Addressed side of the cover extends over internal pages to create a flap.  
Flap length: at least 1.5” wide when measured down from the top edge.  
Flap attaches to the inside of the non-addressed side of the cover.  
Seal with a continuous glue line and one non-perforated tab 0.5” from the bottom leading edge. Minimum tab size: 1.5”.

## EXHIBIT 4 – 5: HEAVYWEIGHT SIMPLE SPINE BOOKLETS

### HEAVY WEIGHT SIMPLE SPINE BOOKLETS

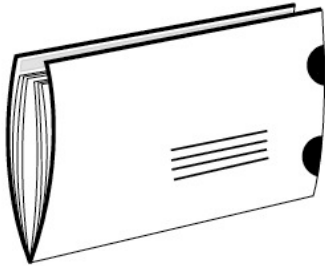
Weight – over 1.6 ounces up to 3 ounces

Maximum height – 6”

Maximum length – 10.5”

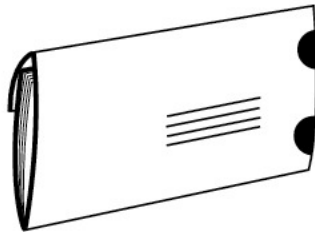
Cover paper weight – 70-pound paper unless otherwise noted: see Exhibit 3–1.

#### Cover-to-Cover



Cover extends no more than 5/8” beyond inner pages.  
Seal with a continuous glue line and two 1.5” non-perforated tabs. One tab placed on the leading edge 0.5” from bottom and one tab placed 1” from top leading edge.

#### External Flap



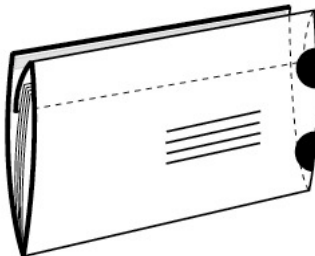
Addressed side of the cover extends over all pages on the back to create a flap.

Flap length: at least 1.5” wide when measured down from the top edge. May be longer, but cannot be closer than 1” from bottom edge.

Flap attaches to the outside of the non-addressed side of the cover.

Seal with a continuous glue line and two 1.5” non-perforated tabs. One tab placed on the leading edge 0.5” from bottom and one tab placed 1” from top leading edge.

#### Internal Flap



Addressed side of the cover extends over internal pages to create a flap.

Minimum flap length: at least 1.5” wide when measured down from the top edge.

Flap attaches to the inside of the non-addressed side of the cover.

Seal with a continuous glue line and two 1.5” non-perforated tabs. One tab placed on the leading edge 0.5” from bottom and one tab placed 1” from top leading edge.

### **Wallet Style Booklets**

A spine forms the bottom edge. Wallet style booklets must be from 5.2" to 8" long, 4" high, can weigh up to 2.5 ounces and must be sealed with non-perforated tabs. Tab size and placement are dictated by the weight of the booklet.

### **EXHIBIT 4 – 6: WALLET STYLE BOOKLETS**

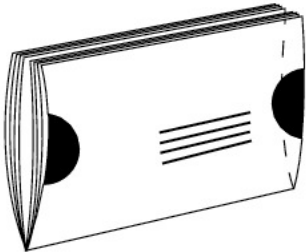
#### **WALLET STYLE BOOKLETS**

Maximum weight – 2.5 ounces

Height – 4"

Maximum length – 5.2" to 8"

Cover paper weight – 70-pound paper unless otherwise noted: see Exhibit 3–1.



Cover:

Entire booklet 60-pound paper, OR

Cover 70-pound paper, inner pages 50-pound paper.

Booklets up to 2 ounces: sealed with 1.5" non-perforated tabs placed 1-1/4" from bottom leading and trailing edge.

Over 2 ounces: use 2" non-perforated tabs placed 3/4" from bottom leading and trailing edge.

±1/8" vertical tolerance for tab placement in both cases.

### **Oblong Booklets**

Oblong booklets have a spine on the leading (shorter) edge.

### **EXHIBIT 4 – 7: OBLONG BOOKLETS**

#### **OBLONG BOOKLETS**

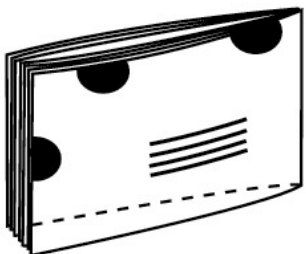
Maximum weight – 3 ounces

Maximum height – 6"

Maximum length – 10.5"

Cover paper weight – 70-pound paper unless otherwise noted: see Exhibit 3–1.

#### **All Tab**



Cover:

5" to 9" long: 60-pound paper

Over 9" up to 10.5": 70-pound paper

Place two 1.5" non-perforated tabs on the top edge and one tab on trailing edge. Position top tabs 1" from left and right edges.

Position one 1.5" non-perforated tab in the middle of the trailing edge.

#### **Internal Flap**

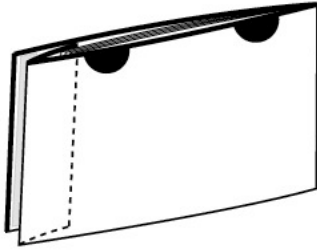
Cover:

5" to 9" long 60-pound paper

Over 9" up to 10.5" 70-pound paper

The front OR back cover sheet is extended on the trailing edge and folded over the non-recessed internal pages. The flap is sealed inside the opposite cover sheet with glue. Extended front and back covers with recessed internal pages are not allowed with glue line seals.

Seal with a continuous glue line. Place two 1.5" non-perforated



tabs on the top edge 1" from the leading and trailing edges.

### **Quarter Folded Booklets**

Quarter folded booklets are mailpieces that are bound and then folded to letter-size. The folded spine may be the leading edge or at the top of the booklet. If necessary, the booklet may be prepared with the spine as the trailing edge, however, this configuration is not recommended. The cover is at least 40-pound paper. Folded booklets must be sealed with non-perforated 1.5" tabs.

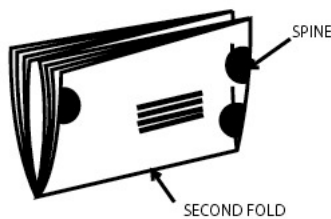
### **EXHIBIT 4 – 8: FOLDED BOOKLETS**

#### **FOLDED BOOKLETS**

Maximum weight – 3 ounces

Maximum height – 6"

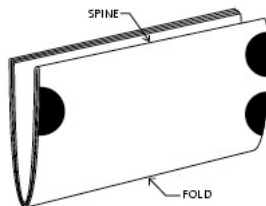
Maximum length – 10.5" unless noted



Cover paper weight—40-pound paper

Two 1.5" non-perforated tabs on leading edge and one tab on trailing edge. Position upper tabs 1" from the top edge. Position lower leading tab 0.5" from the bottom edge.

#### **Vertical Spine**



#### **Horizontal Spine**

Cover paper weight up to 9" long = 50lb;

over 9" long up to 10.5" = 60lb

Tabs up to 2 oz = 1.5" non-perforated tabs;

over 2 oz = 2" non-perforated tabs

Spine at top on address-side panel

Place one tab on the leading and trailing edge 1" from the top; position one tab on the lower leading edge 0.5" from the bottom.

### **Folded Self-Mailers**

Folded Self-Mailer Reference Material is updated routinely. The most recent information should be verified at: [ribbs.usps.gov/index.cfm?page=fsm](http://ribbs.usps.gov/index.cfm?page=fsm).

# 5

## Letter-Size Pieces Containing Discs (CDs or DVDs)

DMM 201.3

### **Basic Standards for Discs in Letter-Size Mailpieces**

Letter-size mailpieces containing a single disc and meeting the standards are considered automation-compatible. Mailpieces with one enclosed disc not meeting these standards must be tested and approved for automation-compatibility. For this purpose, mailers must submit 5 sample mailpieces and a written request to the local postmaster or business mail entry manager for submission to the Pricing and Classification Service Center.

### **Disc Size and Placement**

Position the disc symmetrically at the vertical centerline and as near to the top edge of the mailpiece as is practical. Secure the disc to prevent it from shifting more than ½ inch in any direction. The maximum disc size is:

- a. 120 mm (4.7") in diameter.
- b. 2 mm (0.08") in thickness.

### **Dimensions and Shape Standards for Automation-Compatible Enveloped Letters Containing One Disc**

Each enveloped letter must meet the basic standards for machinable letters and have the following characteristics:

- a. Height, not more than 6" or less than 5.5" high.
- b. Length, not more than 9.75" or less than 7.25" long.
- c. Thickness, not more than 0.25" or less than 0.009" thick.
- d. Weight, not more than 3 ounces.
- e. A piece up to 8" long must be made of paper with a minimum 70-pound basis weight or equivalent.
- f. A piece over 8" long (up to 9.75" long) must be made of paper with a minimum 80-pound basis weight or equivalent.
- g. Discs in mailpieces made of the minimum basis weight paper must be inserted into a protective sleeve.

### **Dimensions and Shape Standards for Automation-Compatible Folded Self-Mailers (unenvloped) Containing One Disc**

Each unenvloped disc mailer must meet the basic standards for machinable letters and have the following characteristics:

- a. Height, not more than 6" or less than 5.5" high.
- b. Length, not more than 9.75" or less than 7.25" long.
- c. Thickness, not more than 0.25" or less than 0.009" thick.
- d. Weight, not more than 3 ounces.



- e. Be prepared from paper stock meeting the industry standard for a basis weight of 75 pounds or greater, with none less than 71.25 pounds (measured weight for 500 25" by 38" sheets). The stock must be free from groundwood unless coated with a substance adding to the stock's ability to resist an applied bending force.
- f. Any folds or perforations in the mailpiece must be parallel to the address.
- g. Must meet the tabbing requirements for pieces prepared with folds or perforations parallel to the address.

**Unacceptable Characteristics for Automation-Compatible Letter-Size Pieces containing one Disc**

Discs in letter-sized envelopes and unenveloped mailers presented as automation-compatible pieces may not be enclosed in packaging such as plastic "clamshells," "plastic" "jewel cases," or inflexible cardboard sleeves.

# 6

## Business Reply Mail

DMM 505.1

For an annual permit fee, a Business Reply Mail (BRM) permit is available for distributing business reply cards, envelopes, self-mailers, cartons, and labels. BRM allows the permit holder to receive First-Class Mail and Priority Mail back from customers by paying postage and fees only on the mail returned. The BRM permit holder guarantees payment of First-Class Mail postage plus a per piece charge for pieces returned by the USPS (see Notice 123 – Price List).

When designing a BRM mailpiece or label, mailers must consult with their local Post Office. The piece must conform to a specific format to qualify as BRM, including obtaining a unique ZIP+4 Code assigned by the USPS.

BRM templates can be found at [http://pe/mpdesign/mpdfr\\_intro\\_all.asp](http://pe/mpdesign/mpdfr_intro_all.asp). The USPS also offers an online self-service tool that allows customers to create approved USPS camera-ready artwork for domestic Reply Mail pieces in just a few steps. The USPS Automated Business Reply Mail® (ABRM) application is a web-based, self-service tool to assist Reply Mail customers in creating domestic **Courtesy Reply Mail (CRM)™**, **Business Reply Mail (BRM)®**, and **Qualified Business Reply Mail (QBRM)™** artwork for card and letter-size mailpieces.

The ABRM tool allows customers to design and create approved USPS camera-ready artwork with an Intelligent Mail barcode (IMb). Customers can then place their IMb either above the address block or in the barcode clear zone (lower right corner) of the piece and can even add an image or logo related to the mailpiece. Artwork files can be downloaded in PDF and EPS formats and these files can be stored in the system library for future use. Another exciting feature of the ABRM tool allows the customer to authorize a third-party vendor or service provider to create artwork on their behalf. Clients must provide pertinent information to their service provider such as their *PostalOne!* BRM permit number, Mailer ID and assigned BRM ZIP+4 Code.

To access the ABRM tool follow this link: <https://www.usps.com/business/reply-mail-solutions.htm>.

In addition to the ABRM tool, the USPS has implemented the MDA Support Center. This center connects customers with a Mailpiece Design Analyst who will provide timely assistance and evaluations of mailpiece design, including Reply Mail. The MDA Support Center hours of operation are Monday through Friday, between 7:00 am and 5:00 pm CST. Customers may contact the MDA Support Center by dialing 855-593-6093, or by sending a request via email to [mda@usps.gov](mailto:mda@usps.gov).

Any proofs for regular BRM should be approved by the USPS before final printing or distributing electronically. Delivery point barcodes are not permitted on BRM pieces. Proofs for Qualified Business Reply Mail (QBRM) must be approved by the USPS and must include the applicable Intelligent Mail barcode (IMb). POSTNET barcodes are not permitted on QBRM pieces.

Exhibit 6–1 illustrates a layout example for a BRM envelope. For requirements on reusable envelopes using BRM with two-way indicia, see [DMM 601.6](#).

.BRM templates are available on the Postal Explorer Web site at [pe.usps.com](http://pe.usps.com) by selecting "Mailpiece Design" in the left frame.

## Dimensions

**Letter-Size Prices**

	Minimum	Maximum
Height	3.5"	6.125"
Length	5"	11.5"
Thickness	0.007"	0.25"

**Card Prices**

	Minimum	Maximum
Height	3.5"	4.25"
Length	5"	6"
Thickness	0.007"	0.016"

Larger card sizes are available but are charged at the appropriate First-Class Mail letter or flat price.

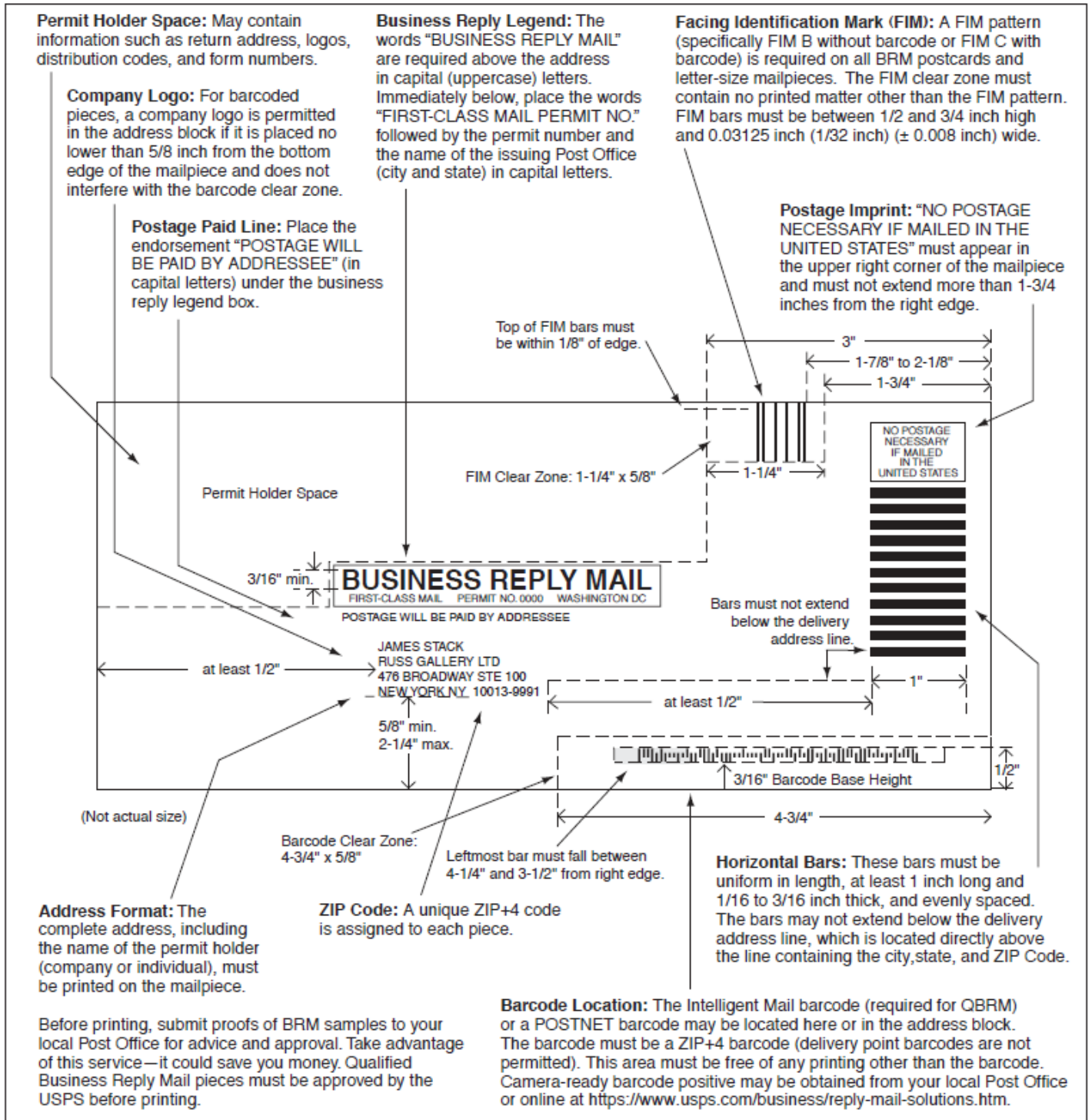
Barcoded pieces measuring more than 4.25" high or 6" long must be at least 0.009" thick.

- Additional standards apply to QBRM pieces.
- A surcharge is assessed for nonmachinable letters.

## Ink/Paper Colors and Type Styles

Not all colors of paper and/or ink and type styles are compatible with automated equipment. See Chapter 11 or contact your local Post Office for guidance.

## Exhibit 6 – 1: Business Reply Mail Layout Guidelines



## Exhibit 6 – 2: Checklist: Business Reply Mail®

This checklist is provided to assist mailers with designing Business Reply Mail.

### Business Reply Mail (BRM)

#### 1. Printing and Print Reflectance

- Not handwritten, typewritten, or handstamped
- No printed borders on letter-size
- All ink colors are acceptable if the piece meets the appropriate reflectance standards in DMM 708.4.

#### 2. "No Postage Necessary" Imprint

- Properly worded (all capital letters recommended)  
NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES
- Properly positioned  
Upper right corner of the address side of the piece  
Not more than 1-3/4 inches from the right edge of the piece
- Printed directly on piece<sup>1</sup>

#### 3. Business Reply Legend

- Properly worded  
BUSINESS REPLY MAIL  
BUSINESS REPLY LABEL
- All capital letters
- Letters at least 3/16 inch high
- Printed directly on piece<sup>1</sup>

#### 4. Permit Number

- Properly worded  
FIRST-CLASS MAIL® PERMIT NO. [NO., CITY, STATE]  
(representing the permit holder's number and Post Office™ that issued the permit)
- Directly below the business reply legend
- All capital letters
- Printed directly on piece<sup>1</sup>

#### 5. Postage Endorsement

- Properly worded  
POSTAGE WILL BE PAID BY ADDRESSEE
- Directly below First-Class Mail and permit number, city, and state
- All capital letters
- Printed directly on piece<sup>1</sup>

BRM checklist continued next page

## Business Reply Mail (BRM) (checklist continued)

### 6. Delivery Address

- Complete address  
Permit holder's name  
Delivery address  
City, state and BRM ZIP Code™
- Within OCR read area<sup>2</sup>
- At least 1/2 inch between ZIP Code and horizontal bars
- Correct ZIP Code for BRM
- Permit holder's name printed directly on piece<sup>1</sup>

### 7. Horizontal Bars

- Optional with correct Intelligent Mail® barcode
- Directly below "No Postage Necessary" imprint
- Uniform length at least 1 inch
- 1/16 - 3/16 inch thick and evenly spaced
- Do not extend lower than 5/8 inch from bottom edge of piece

### 8. Facing Identification Mark (FIM)

- FIM C required
- FIM clear zone boundaries  
Left: 3 inches from right edge of the piece  
Right: 1-3/4 inches from right edge of piece  
Top: top edge of piece  
Bottom: 5/8 inch from top edge of piece
- FIM bars 5/8 inch high,  $\pm 1/8$  inch
- FIM bars 1/32 inch wide,  $\pm 0.008$  inch
- Right edge of rightmost bar 2 inches from right edge of piece,  $\pm 1/8$  inch
- Tops of bars no lower than 1/8 inch from top edge of piece
- Bottom of bars no lower than 5/8 inch from top edge of piece,  $\pm 1/8$  inch
- Positional skew (slant of the entire FIM)  $\pm 5$  degrees
- Rotational skew (slant of individual FIM bars)  $\pm 5$  degrees
- 30% reflectance between FIM and background

### 9. Company Logo

- On letter-size, no lower than 5/8 inch from bottom edge of piece

### 10. Intelligent Mail® Barcode (IMb™) and POSTNET™ Barcode<sup>1,2,3,5</sup>

- Barcode clear zone  
Left: 4-3/4 inches from right edge of piece  
Right: right edge of piece  
Top: 5/8 inch from bottom edge of piece  
Bottom: bottom edge of piece
- Barcode on mailpiece (barcode read area)  
Horizontally, leftmost bar within 3-1/2 to 4-1/4 inches from right edge of piece  
Vertically, entire barcode within 3/16 to 1/2 inch from bottom edge of piece

<sup>1</sup> See DMM 505.1 for window envelopes

<sup>2</sup> See DMM 202.2 for OCR read area

<sup>3</sup> See DMM 202.5 for placement of barcode in address block

<sup>4</sup> See DMM 708.5 and IMb Specification USPS-B-3200 (on RIBBS®) for complete specifications

<sup>5</sup> See DMM 505.1 for complete QBRM specifications; only IMb™ can be used on QBRM pieces

# 7

## Courtesy Reply Mail

DMM 201.3

Courtesy Reply Mail (CRM) consists of preaddressed postcards or envelopes provided by the mailer to customers both to expedite their responses and to provide more accurate delivery. It differs from BRM in that no fees are required and the respondent is responsible for applying the correct postage before mailing back the card or envelope. CRM is prepared with the correct address and barcode to take advantage of automated USPS processing. It is a good choice when you wish to direct replies (payments) to an address that is different from your usual mailing address such as a Customer Service Center or Payment Processing location.

The USPS provides the facing identification mark (FIM) and the appropriate barcode to print on CRM pieces at no charge. The guidelines in Exhibit 9–1 will help optimize the use of this format.

### Barcodes

Delivery-point Intelligent Mail or POSTNET barcodes may be placed either in the address block or in the lower right barcode clear zone.

CRM templates are available on the Postal Explorer Web site at [pe.usps.com](http://pe.usps.com) by selecting "Mailpiece Design" in the left frame.

### Dimensions

Between 3.5" and 6.125" in height; between 5" and 11.5" in length; and between 0.007" and 0.25" in thickness.

To qualify for the card price, cards must be between 3.5" and 4.25" in height; 5" and 6" in length; and 0.007" and 0.016" in thickness. Larger card sizes are mailable but are charged at the appropriate First-Class Mail letter or flat price.

Barcoded pieces measuring more than 4.25" high or 6" long must be at least 0.009" thick.

- A surcharge is assessed for nonmachinable letters.

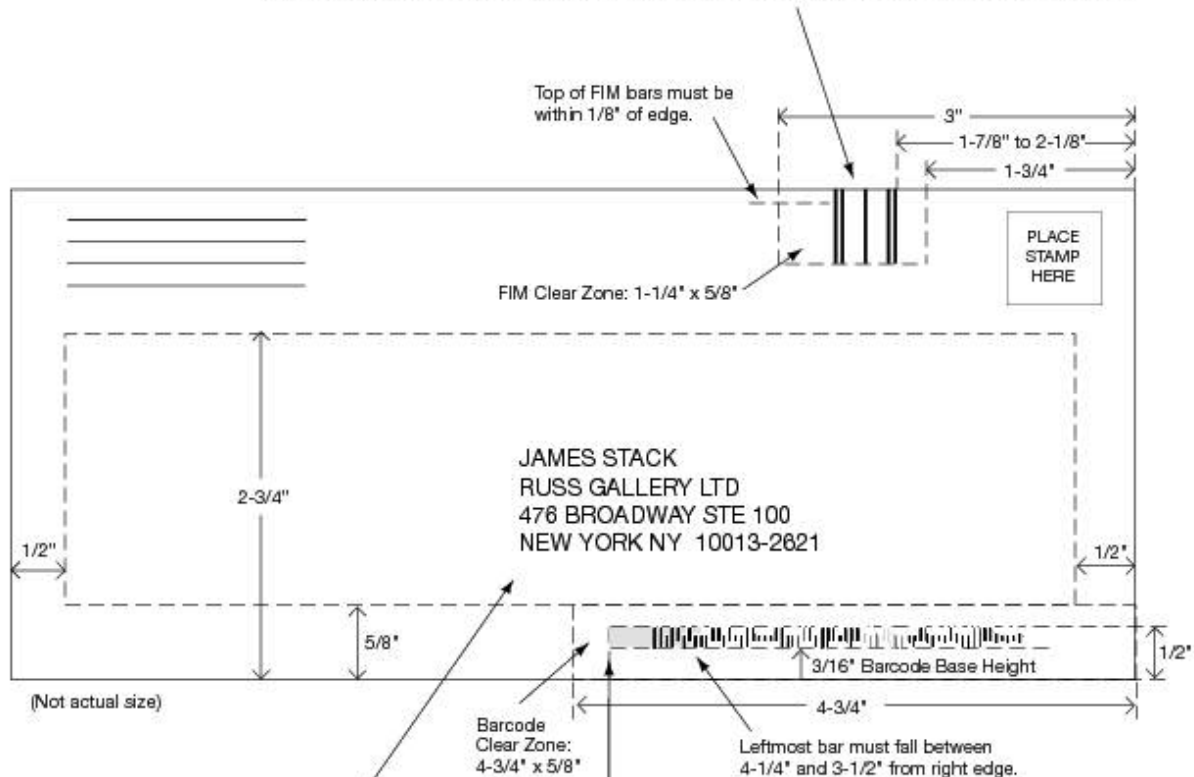
### Ink/Paper Colors and Type Styles

Not all colors of paper and/or ink and type styles are compatible with automated equipment. Contact your local Post Office for guidance.

## Exhibit 7 – 1: Courtesy Reply Mail Layout Guidelines

**Facing Identification Mark (FIM):** Use FIM A on all courtesy reply mail postcards and letter-size mailpieces with the appropriate POSTNET barcode. This permits computerized cancellation equipment to align, postmark, and direct the mailpiece properly.

**FIM Location:** The FIM clear zone must contain no printed matter other than the FIM A pattern. FIM bars must be between 1/2 and 3/4 inch high and 0.03125 (1/32 inch) ( $\pm$  0.008 inch) wide.



**Address Format:** The complete address, including the name of the sender (company or individual), must be printed directly on the mailpiece.

**Barcode Location:** This area must be free of any printing other than the appropriate barcode (see reverse). A camera-ready barcode positive may be obtained from your local Post Office.



## Exhibit 7 – 2: Checklist: Courtesy Reply Mail™

This checklist is provided to assist mailers with designing Courtesy Reply Mail.

### Courtesy Reply Mail (CRM)

**1. Facing Identification Mark (FIM)**

FIM A is used.

FIM A is properly positioned.

Minimum PRD is met.

No extraneous printing is in the FIM clear zone.

**2. Postage Area: Customer Reminder to Affix Postage (optional element)**

Area extends no more than 1-3/4 inches from the right edge of the mailpiece.

**3. Delivery Address Block**

Delivery address line (street address/PO box number) is directly above city/state/ZIP+4 line.

ZIP Code corresponds with barcode.

City/state/ZIP+4 line is at least 5/8 inch from bottom and no higher than 2-1/4 inches from bottom edge of mailpiece.

For window envelopes only: minimum clearances between address block (including barcode) and window edges are maintained on all sides during "insert shift".

**4. Barcode**

Barcode is correctly positioned (in address block or in barcode clear zone).

Barcode is readable.

Print reflectance minimum is met.

If barcoded in the barcode clear zone: there is no extraneous printing or other matter in the zone.

**5. Other**

Aspect ratio is met.

Dimensions are within the letter-size standards.

Piece is at least 3-1/2 inches high and at least 5 inches long.

If no larger than 4-1/4 inches by 6 inches, piece is at least 0.007 inches thick, and as least 0.009 inch thick if piece is larger than 4-1.4 inches by 6 inches.

For official mail only: endorsed "Official Business, Penalty for Private Use \$300" in upper left area.

# 8 Meter and PC Postage Reply Mail

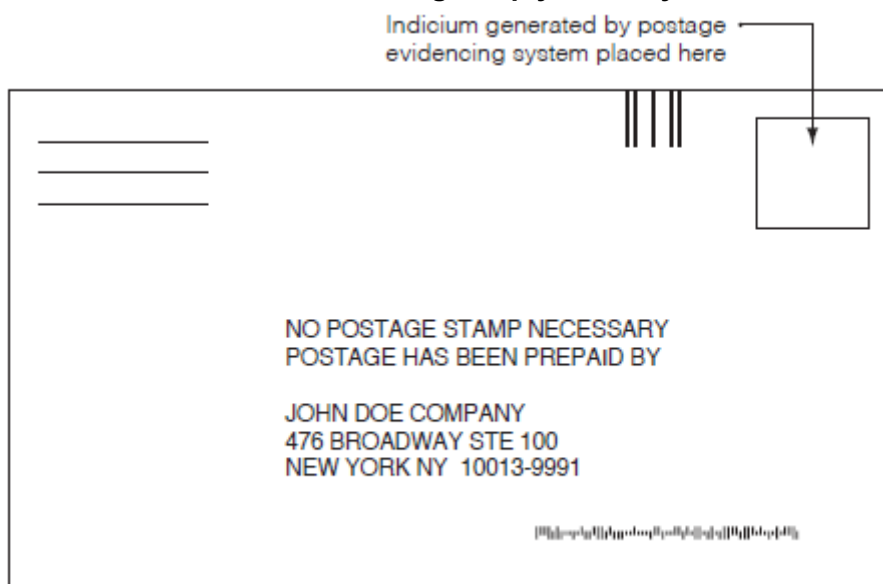
DMM 604.4

Mailers may use indicia generated by any postage evidencing system to prepay reply postage on: Priority Mail Express and Priority Mail when the price is the same for all zones, on First-Class Mail, and on single-piece price Media Mail and Library Mail.

The following conditions apply to reply mail pieces with meter or PC Postage indicia:

- The postage amount must be sufficient to prepay the full postage due.
- Indicia must be printed directly on the mailpiece, and placed in the upper-right corner of the envelope, at least 1/4 inch from the right edge of the mailpiece and 1/4 inch from the top edge of the mailpiece.
- Indicia must not infringe on the areas reserved for the FIM, POSTNET barcode, or optical character reader (OCR) clear zone.
- Indicia used to prepay reply postage must not show the date.
- Mailpieces must be pre-addressed for return to the authorized user only.
- The words “NO POSTAGE STAMP NECESSARY POSTAGE HAS BEEN PREPAID BY”: must be preprinted directly above the address.
- Mailers must use FIM A on letter-size First-Class Mail reply mail prepaid with the meter indicia and barcode preprinted directly on the mailpiece.
- Mailers must use FIM D for letter-size First-Class Mail reply mail prepaid with the PC Postage indicia, or when IBI is printed with nonfluorescent ink, preprinted directly on the mailpiece.
- The address side must appear as described in this section and shown in the illustration below. Nothing may be added except a return address, FIM, or barcode.

## Exhibit 8 – 1: Meter or PC Postage Reply Mail Layout Guidelines



## **Barcodes**

Delivery point Intelligent Mail or POSTNET barcodes (as of January 28, 2013, POSTNET barcodes will not qualify for automation prices) on letter-size pieces may be placed either in the address block or in the lower right barcode clear zone.

## **Dimensions**

Between 3-1/2" and 6-1/8" in height; between 5" and 11-1/2" in length; and between 0.007" and 0.25" in thickness.

To qualify for the card price, cards must be between 3-1/2" and 4-1/4" in height; 5" and 6" in length; and 0.007" and 0.016" in thickness. Larger card sizes are mailable but are charged at the appropriate First-Class Mail price.

Barcoded pieces measuring more than 4-1/4" high or 6" long must be at least 0.009" thick.

- Additional standards apply to QBRM pieces.
- A surcharge is assessed for nonmachinable letters.

## **Ink/Paper Colors and Type Styles**

Not all colors of paper and/or ink and type styles are compatible with automated equipment. Contact your local Post Office for guidance.

## Exhibit 8 – 2: Meter or PC Postage Reply Mail Checklist

This checklist is provided to assist mailers with designing Meter or PC Postage Reply Mail.

### Meter or PC Postage Reply Mail

#### 1. Facing Identification Mark (FIM)

- FIM A is used
- FIM is properly positioned
- Minimum Print Reflectance Difference (PRD) is met
- No extraneous printing is in the FIM clear zone

#### 2. Meter or PC Postage Stamp

- Stamp is properly positioned
- Stamp contains no date
- Stamp is legible
- Postage is sufficient for type and weight of piece  
(for example: First-Class and ounce(s) or Priority Mail Flat-Rate, ounce(s) or lb(s).)

#### 3. "NO POSTAGE STAMP NECESSARY POSTAGE HAS BEEN PREPAID BY"

- Letters are all capitals
- Letters are at least 3/16 inch high
- Endorsement is properly worded

#### 4. Delivery Address Block

- Delivery address line (street address/PO Box number) is directly about city/state/ZIP+4 line
- ZIP+4 Code corresponds with ZIP+4 barcode
- City/state/ZIP+4 line is at least 5/8 inch from bottom edge of piece
- City/state/ZIP+4 line is no higher than 2-1/4 inches from bottom edge of piece
- For window envelopes: minimum clearances between address block (including barcode) and window edges are maintained on all sides during "insert shift"

#### 5. Barcode and Lower Right Barcode Clear Zone

- Barcode is correctly positioned (in address block or barcode clear zone)
- Barcode is readable
- Print reflectance minimum is met
- If barcoded in the barcode clear zone: no extraneous printing or other matter is in the zone

#### 6. Other

- Aspect ratio is met
- Dimensions are within the letter-size standards and piece is automation compatible
- Piece is at least 3-1/2 inches high
- Piece is at least 5 inches long
- If no larger than 4-1/4 inches by 6 inches, piece is at least 0.007 inch thick, and at least 0.009 inch thick if piece is larger than 4.1/4 inches by 6 inches
- For official mail: endorsed "Official Business, Penalty for Private Use \$300" in the upper left area

# 9 Permit Reply Mail

DMM 505.2

- Permit reply mail (PRM) enables a permit imprint permit holder to receive First-Class Mail and Priority Mail back from customers by prepaying postage for reply pieces at the time of mailing. Mailers must distribute PRM pieces as part of a First-Class Mail mailing using a permit imprint, and not through any other means. PRM customers must apply for authorization through the district manager of Business Mail Entry at the office where the permit imprint account is held and must submit preproduction samples of PRM pieces to the Postal Service for approval prior to distribution.

The following additional conditions apply.

- No extra services (e.g., Certified Mail, insurance, Registered Mail) are permitted with PRM.
- The delivery address on a PRM mailpiece may not be altered to redirect it to any address other than the one preprinted on the piece.
- PRM may not be used for any purpose other than the purpose intended by the permit holder, even when postage is affixed.
- A letter-size PRM piece containing one standard optical disc will not be charged a nonmachinable surcharge if the piece meets the standards in DMM 233.2.8. A flat-size BRM piece containing one standard optical disc and weighing no more than 2 ounces will be charged postage applicable for a 1-ounce First-Class Mail flat if the piece meets the standards in DMM 333.2.7.
- If the Postal Service discovers a PRM format error, the permit holder or authorized agent will receive a written notification of the error. The permit holder must correct the error and ensure that all future PRM pieces meet appropriate specifications before reauthorization. The Postal Service may revoke a PRM authorization because of format errors or misuse.
- All pieces of PRM must include the format elements shown in Exhibit 9-1.
- All legible forms of printing are permitted. Mailers may not use handwriting, typewriting, or handstamping to prepare PRM.
- The imprint, "NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES," must be printed in the upper right corner of the address side of the piece and must not extend more than 1-3/4 inches from the right edge of the piece.

- The legend, “PERMIT REPLY MAIL,” must appear on all pieces. The legend must appear above the address in capital letters at least 3/16 inch high and may be surrounded by a rule or border.
- Directly below the permit reply mail legend, the words, “FIRST-CLASS MAIL PERMIT NO. [NO., CITY, STATE]” (representing the permit holder's number and the Post Office that issued the permit) must appear in capital letters. The permit holder may replace the permit number and the Post Office with a company permit as described below following Exhibit 9-1. Directly below that, the endorsement, “POSTAGE HAS BEEN PREPAID BY ADDRESSEE,” must appear in capital letters. At the permit holder's discretion, the permit number and postage endorsement may be surrounded by a rule or border.
- The complete address (including the permit holder's name, delivery address, city, state, and ZIP+4 code) must be printed on the piece. PRM pieces must bear a delivery point POSTNET (effective January 28, 2013, POSTNET barcodes will not qualify on PRM pieces) or an Intelligent Mail barcode.
- A facing identification mark (FIM) C must be printed on all letter-size PRM. The FIM C must meet the physical standards in DMM 708.9.0.
- A company logo is permitted as follows:
  - § On letter-size PRM, if the logo is placed no lower than 5/8 inch from the bottom edge of the piece.
  - § On any piece, if the logo does not interfere with any required format element.
  - § Mailers may distribute PRM as part of the contents of an outgoing mailing only by using a valid permit imprint account. The standards for using permit imprints are located in DMM 604.5.0.

## Exhibit 9 – 1: Permit Reply Mail Format Elements



### Using Company Permit Reply Mail Imprint

A company permit reply mail imprint is one in which the exact name of the company holding the permit is shown in the permit reply mail indicia in place of the city, state, and permit number. A customer may use a company permit reply mail imprint if, for 1 year from the date of mailing, the permit holder or its agent keeps records of each mailing paid with a company permit reply mail imprint and makes them available for USPS review on request. These records must include the weight of a single piece; the total number of pieces mailed; the total postage; and the dates and Post Offices of mailing. A complete sample mailpiece must be included for each mailing.

To create a company permit reply mail imprint, replace the words “PERMIT No. [NO., CITY, STATE]” (representing the permit holder's number and the Post Office that issued the permit), with “PERMIT PAID BY [COMPANY NAME]” (representing the name of the company in the delivery address of the mailpiece) in capital letters.

# 10 Facing Identification Mark (FIM)

**DMM 708.9**

## **Description & Purpose**

A Facing Identification Mark (FIM) is a pattern of vertical bars printed in the upper right portion of a mailpiece, to the left of the postage area. The FIM tells automated processing equipment some of what it needs to know to do its job. The FIM allows automatic facing (orientation) of letter-size mail for cancellation (postmarking). The FIM also identifies reply mail that bears preprinted barcodes. Barcoded mail is routed directly to high-speed barcode sorters.

## **Using FIMs**

The FIM serves to orient and separate certain types of First-Class Mail during the facing-canceling process. Mailers must use the appropriate FIM as follows:

- All letter-size business reply mail (BRM)
- All letter-size permit reply mail (PRM)
- Letter-size courtesy reply mail (CRM) and meter or pc postage reply mail provided as enclosures in automation-price mailings
- Letter-size mail with IBI printed with non-fluorescent ink directly onto the envelope by an IBI meter or a PC postage system must use FIM D.
- Cards and letter-size envelopes containing absentee balloting materials
- A FIM must not be used on other types of mail, except that a FIM may be used on a letter-size envelope with a permit imprint when that envelope is designed for use as a reusable mailpiece. A FIM used for this purpose must be the appropriate FIM for the postage payment method on the returned envelope.

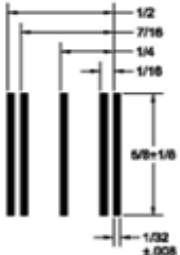
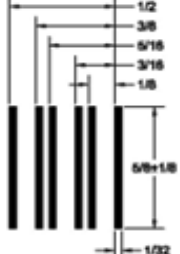
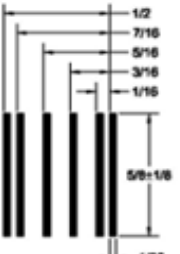
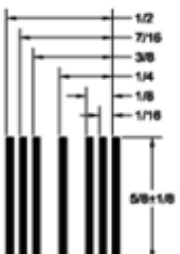
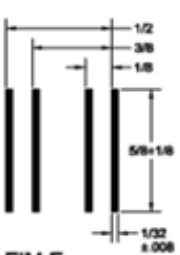
## **Patterns**

A FIM is essentially a nine-bit code consisting of bars and no-bar placeholders. The presence of a bar can be considered a binary “1” (one); the absence of a bar, a binary “0” (zero). The required FIM pattern as shown in Exhibit 11-1 below depends on the type of mail and the presence of an Intelligent Mail barcode or a POSTNET barcode, as follows:

- § FIM A is used for CRM and MRM with a preprinted barcode. (FIM A binary code is 110010011.)
- § FIM B is used for BRM without a preprinted BRM ZIP+4 barcode. (FIM B binary code is 101101101.)
- § FIM C is used for BRM with a preprinted BRM ZIP+4 barcode and for PRM with a preprinted delivery-point barcode. (FIM C binary code is 110101011.)
- § FIM D is used for letter-size First-Class Mail with PC Postage or IBI printed with non-fluorescent ink directly on the envelope. (FIM D binary code is 111010111.)
- FIM E is used for postcard-size and letter-size First-Class Mail with customized services. (FIM E binary code is 101000101.)



**Exhibit 10 – 1: FIM Patterns (not drawn to scale)**

Pattern	Use	Barcoded?
 <p>FIM A</p>	<p>Courtesy Reply Mail Metered Reply Mail</p>	<p>Yes</p>
 <p>FIM B</p>	<p>Business Reply Mail</p>	<p>No</p>
 <p>FIM C</p>	<p>Business Reply Mail</p>	<p>Yes</p>
 <p>FIM D</p>	<p>IBI Meters PC Postage Systems</p>	<p>Not required</p>
 <p>FIM E</p>	<p>Customized Services</p>	<p>Yes IMb only</p>

## FIM Standards

Ensure that the FIM meets the following standards (Exhibit 11-2):

### FIM Clear Zone

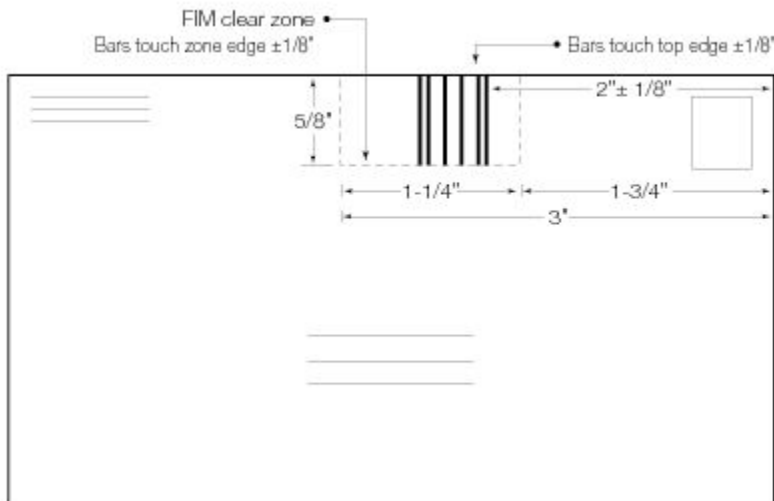
- § The FIM clear zone must contain no printing other than the FIM pattern. Exhibit 11-2 shows the configuration of the clear zone and the correct location of the FIM.
- § The rightmost bar of the FIM must be placed be 2 inches  $\pm 1/8$  inch from the right edge of each mailpiece, must be  $5/8$  inch high  $\pm 1/8$  inch and  $1/32$  inch wide  $\pm 0.008$  inch.
- § The tops of the FIM bars must be no lower than  $1/8$  inch from the top edge of each mailpiece. They may extend over the top edge to the flap.
- § The bottoms of the FIM bars should touch the bottom edge of the FIM clear zone but must not be more than  $1/8$  inch above or below that edge.

### FIM Bars

The FIM bars must be  $5/8$  inch ( $\pm 1/8$  inch) high and  $1/32$  inch ( $\pm 0.008$  inch) wide and positioned as follows:

- The right edge of the rightmost bar of the FIM must be 2 inches ( $\pm 1/8$  inch) from the right edge of the piece.
- The tops of the FIM bars must be no lower than  $1/8$  inch from the top edge of the piece. The tops of the bars may extend over the top edge of the piece to the back (flap) of the piece if at least a  $1/2$ -inch bar height is maintained on the address side.
- The bottoms of the FIM bars must touch the bottom boundary of the FIM clear zone or be no more than  $1/8$  inch above or below this boundary.

**Exhibit 10 – 2: Position of FIM (not drawn to scale)**



The print reflectance difference (PRD) between the FIM's ink and the background material must be measured with Postal Service or Postal Service licensed equipment. There must be at least a 30 percent PRD in the red and green portions of the optical spectrum. Black ink on a white background usually satisfies this requirement and is recommended.

In addition to the preceding requirements, FIM bars must be printed within the dimensions shown in Exhibit 11-2. The bars must be within 5 degrees of perpendicular to the top edge of the mailpiece.

## **FIM Positives and Barcodes**

The Postal Service provides, at no charge, camera-ready positives of the FIM that you need to use and a camera-ready print of the barcode representing the correct ZIP+4 code and barcode or delivery point barcode as appropriate for your reply mail address. Do not reduce or enlarge these positives and prints. Visit [pe.usps.com](http://pe.usps.com) to find your local Mailpiece Design Analyst or to design camera-ready positive yourself.

## **Obtaining FIMs, Barcodes, and ZIP Codes**

You can get FIM positives from your postmaster or Mailpiece Design Analyst. FIMs are also available on Postal Explorer at [pe.usps.com](http://pe.usps.com) by clicking on Mailpiece Design on the left blue frame.

You can find the templates for your reply mail envelopes on Postal Explorer as well as options for obtaining FIMs and barcodes, obtaining permit numbers, and payment options. After clicking on Mailpiece Design in the left frame, choose Business Reply Mail or Courtesy Reply Mail to show your options.

### **Website**

In most areas, you can apply for your reply permit online, pay your annual fee, apply for a ZIP+4 code, and create and download print-ready mailpieces at <https://www.usps.com/business/reply-mail-solutions.htm>.

## **Importance of Correct Barcodes and FIMs**

Even though barcodes representing different delivery points can look nearly identical, the correct barcode is essential. The barcode used for your regular mail delivery is different than the barcode used for your BRM.

Printing the wrong barcode on a reply piece can direct your mail to the wrong Post Office. A wrong barcode may delay delivery of your mail.

It is easy to confuse different FIM patterns. Before you format and print reply mail, be sure that the barcode and FIM are correct for that use.

It is important that the barcode and FIM are positioned properly on reply pieces. If part of the barcode lies outside the read area, the barcode might not be scanned accurately. Use Notice 67, *Automation Template*, for correct positioning.

# 11 Ink/Paper Information

## General

The quality of the printing is as important as the placement of the delivery address to ensure machinability of letter-size mail.

### **Ink/Paper Colors and Type Styles**

Not all colors of paper and/or ink and type styles are compatible with automated equipment.

Inverse (or reverse) printing, light print on a dark background, is not permitted for automation and machinable mail, including Business Reply Mail and Qualified Business Reply Mail. Paper color is relative to the printing color of the address, barcode, return address, and postage indicia. It is very important in the barcode clear zone. The paper color should be such that the PRD (contrast) conforms to the requirements listed in Reflectance above.

Type style should be proportional or fixed fonts, or as close to proportional or fixed fonts as possible (e.g., Arial, Tahoma) for the best readability on USPS machines. Avoid script or styles similar to Gothic because USPS machines cannot read them well.

## Paper Quality

The paper or other material used for the envelope or outermost sheet of the address side of a mailpiece should allow the water-based ink applied by USPS equipment to dry within one second without smearing.

## Reflectance

Reflectance is the measurement of the light that rebounds from a surface. It is extremely important that the reflectance of the printed address or barcode on a mailpiece contrast sufficiently with the background. The contrast helps to ensure that postal processing machines will be able to read the address information and direct your mail correctly.

This section provides definitions and formulas for determining the reflectance of mailpiece backgrounds and printing ink, print contrast ratio (PCR), and print reflectance difference (PRD). Values for these parameters are always less than one. Decimal fractions (for example, 0.65) and percentages are generally used interchangeably.

The symbol R is used for reflectance. Only diffuse (scattered) reflectance is of interest. It represents the percentage of incident light diffusely reflected by a material. A surface perfectly reflecting the incident light has a reflectance of 100 percent; a surface reflecting only half the incident light has a reflectance of 50 percent.

## **Print Reflectance Difference (PRD at least 30%)**

$$\text{PRD} = (R_W - R_P) \times 100$$

$R_W$  is the reflectance of the background (e.g., envelope or card)

$R_P$  is the reflectance of the ink (e.g., character stroke)

## **Print Contrast Ratio (PCR at a 15% maximum)**

$$\text{PCR} = (R_W - R_P) \div R_W \times 100$$

$R_W$  and  $R_P$  are defined above.

Mailpiece Design Analysts can measure PRD and PCR, as well as other mailpiece characteristics, using the Postal Service Envelope Reflectance Meter (ERM III). Information on the commercial availability of this instrument is on the [RIBBS website at https://ribbs.usps.gov/intelligentmail\\_mailpieces/documents/tech\\_guides/USPSIMB\\_Resources\\_List.pdf](https://ribbs.usps.gov/intelligentmail_mailpieces/documents/tech_guides/USPSIMB_Resources_List.pdf).

## **Address Block Measurements**

ERM-III is a portable desktop scanning device that interfaces to a laptop or desktop personal computer. It is capable of viewing the barcode and address block of letter- and flat-size mailpieces.

The ERM-III is used to measure optical properties read by the automation equipment used by the United States Postal Service. It is used to examine finished mailpieces bearing address information as well as the pre-production materials intended for subsequent use in mailpiece construction. The three primary functions of the ERM-III include:

- Envelope Reflectance Measurements
- Barcode Quality Analysis of Intelligent Mail, POSTNET, or PLANET barcodes
- Opacity

The meter is used to determine whether there is sufficient contrast between the printed character/barcode and the envelope background so that it can be successfully processed on automation equipment.

## **Intelligent Mail Barcodes, POSTNET Barcodes, PLANET Code Barcodes, and FIM Measurements**

Print reflectance and print reflectance difference measurements on Intelligent Mail, POSTNET, and PLANET Code barcodes, on Facing Identification Mark (FIM) bars, and on potential interference, should be made using the USPS ERM III. The same procedures that apply to address block measurements apply to measuring barcodes and FIMs. The Intelligent Mail barcode specification [USPS-B-3200](https://ribbs.usps.gov) is available at [ribbs.usps.gov](https://ribbs.usps.gov).

# APPENDIX

## Decimal and Fractional Equivalents –

This table is provided as a tool to help mailers convert decimals to fractions and fractions to decimals because USPS standards may be written in either.

DECIMALS	FRACTIONS	DECIMALS	FRACTIONS
0.0313	= 1/32	0.0400	= 1/25
0.0625	= 2/32 = 1/16	0.0800	= 2/25
0.0938	= 3/32	0.1200	= 3/25
0.1250	= 4/32 = 2/16 = 1/8	0.1600	= 4/25
0.1563	= 5/32	0.2000	= 5/25 = 1/5
0.1875	= 6/32 = 3/16	0.2400	= 6/25
0.2188	= 7/32	0.2800	= 7/25
0.2500	= 8/32 = 4/16 = 2/8 = 1/4	0.3200	= 8/25
0.2813	= 9/32	0.3600	= 9/25
0.3125	= 10/32 = 5/16	0.4000	= 10/25 = 2/5
0.3438	= 11/32	0.4400	= 11/25
0.3750	= 12/32 = 6/16 = 3/8	0.4800	= 12/25
0.4063	= 13/32	0.5200	= 13/25
0.4375	= 14/32 = 7/16	0.5600	= 14/25
0.4688	= 15/32	0.6000	= 15/25 = 3/5
0.5000	= 16/32 = 8/16 = 4/8 = 2/4	0.6400	= 16/25
0.5313	= 17/32	0.6800	= 17/25
0.5625	= 18/32 = 9/16	0.7200	= 18/25
0.5938	= 19/32	0.7600	= 19/25
0.6250	= 20/32 = 10/16 = 5/8	0.8000	= 20/25 = 4/5
0.6563	= 21/32	0.8400	= 21/25
0.6875	= 22/32 = 11/16	0.8800	= 22/25
0.7188	= 23/32	0.9200	= 23/25
0.7500	= 24/32 = 12/16 = 6/8 = 3/4	0.9600	= 24/25
0.7813	= 25/32		
0.8125	= 26/32 = 13/16		
0.8438	= 27/32		
0.8750	= 28/32 = 14/16 = 7/8		
0.9063	= 29/32		
0.9375	= 30/32 = 15/16		
0.9688	= 31/32		

# **Barcoding Software and Equipment**

## **CASS / MASS**

The Coding Accuracy Support System (CASS) certification process is designed in cooperation with the mailing industry to improve the quality of postal codes, i.e., 5-digit ZIP, ZIP + 4, delivery point, and carrier route codes that appear on mailpieces.

The CASS software certification program provides hardware and software developers, service bureaus, and commercial mailers a common measure by which to test the quality of address-matching software. Software tests for CASS certification are graded by the U.S. Postal Service National Customer Support Center (NCSC) and the results are returned to the developer to provide useful diagnostics for correcting software deficiencies. However, CASS processing does not measure the accuracy of ZIP + 4, delivery point, 5-digit ZIP, or carrier route codes in a mailer's address file.

CASS certification is valid until the end of the current period. For software to remain CASS Certified for each period, developers must reapply for certification and meet the minimum accuracy requirements during Stage II testing.

Another certification program offered by the CASS Department is the Multiline Accuracy Support System (MASS). MASS provides certification for MLOCRs, (Multiline Optical Character Readers), RVE (Remote Video Encoding) systems, LVE (Local Video Encoding), and encoding stations to process address information and apply an accurate delivery point barcode (DPBC).

The NCSC issues MASS certification once the required level of accuracy is achieved. MASS certification is a biennial requirement and is valid from the certification date until the end of any current biennial period. MASS certification is required for all mailers using MLOCRs, RVE systems, LVE or encoding stations when printing DPBCs on mailpieces submitted for mailing at automation prices.

## **PAVE**

The Presort Accuracy, Validation, and Evaluation (PAVE) program is a process designed in cooperation with the mailing industry to evaluate presort software and determine its accuracy in sorting address files according to Domestic Mail Manual (DMM) standards. PAVE is available only to presort software developers and vendors, i.e., companies that develop presort software or perform retail services for those developers. Participation in the PAVE program is voluntary.