Royal Mail

Manual Mailmark Access Parcels and
Manual Mailmark Access General Large Letters
Technical Specifications
Network Access

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1   Introduction

The technical detail provides Addressing and Mailmark barcode requirements for Manual Mailmark Parcel and Manual Mailmark General Large Letters.

Parcels: items which do not receive machineable discounts and are of a format which does not fall into the Letter or Large Letter specifications.

General Large Letters: items of mail, large letter sized, up to 25mm thickness which fall outside the discount 'Mailmark' options. They are fulfilment items i.e. are not magazines, publications, not Advertising and not Business Mail.

Please refer to the Network Access – **Wholesale Parcel Contract User Guide** for additional detail regarding specifications.

1.1   Purpose

This document provides guidance on the technical requirements for Manual Mailmark Parcels and Manual Mailmark General Large Letters, not being sent using the standard Mailmark products but which have a Mailmark barcode applied.

The requirements set out in this document are additional to the specifications set out in the Network Access User Guide and the Wholesale Parcel Contract User Guide which customers are required to comply with when sending Manual Mailmark Parcels and Manual Mailmark General Large Letters.

The requirements apply to the finished mailpiece as presented to Royal Mail.

Addressing Standards requirements set out in this technical guide have been assessed and is categorised as either 'Mandatory' (M), or 'Recommended High Risk' (H) or 'Recommended Low Risk (L)':

•   items that fail to meet the 'Mandatory' requirements are regarded as unmachineable and are very likely to have surcharges applied.

•   items which fail to meet the requirements that are identified as 'Recommended - High Risk' have a higher likelihood of performing poorly through our processing machines. Items that fail to meet these requirements are more likely to have Surcharges applied and may become damaged in our processing machines.

•   Items which fail to meet the requirements that are identified as 'Recommended - Low Risk', may perform poorly through our processing machines. However, the risk is lower than that posed by failure to meet the 'Recommended High Risk' specifications and there is less chance of items being damaged or surcharges being applied.

2 Mailmark

2.1 Barcodes

Category		Specification Requirement	M/R
General	General	• Only one **Mailmark** 2D code or 4-state barcode must be printed on the Parcel / General Large Letter (the only exception being 4-State Consolidator Barcode which may be printed onto Letters that bear another Mailmark code).	M
		• The Mailmark 2D code or 4-state barcode content must be aligned to the human readable attributes that are printed on the Parcel / General Large Letter and be appropriate for the service used.	M
		• The Mailmark 2D code or 4-state barcode must always be located on the same side of the envelope or Parcel as the Indicia and the Delivery Address block.	M
		• The Mailmark 2D code or 4-state barcode and clear zone must remain visible at all times.	M
		• The Mailmark 2D code or 4-state barcode must not be printed over the edge of the envelope flap.	M
	E Manifest Handling Specification	Mailings must meet the requirements of the E Manifest Handling System Customer Upload Specification (process and implementation).	M
	Mailmark Barcode Specification	The Mailmark codes must meet the requirements of Mailmark Barcode Specification (2D & 4-State Code and content definition).	M
2D Codes	Code Type	You must use a Data Matrix type ECC200 code complying with the international standard ISO/IEC 16022:2006. Formats 7, 9, or 29 may be used. **Format 7** (24 **Format 9** (32 **Format 29** (48 x x 24 modules) x 32 modules) 16 modules)	M
	Data Content	The data content must comply with the C40 encodation scheme (Basic Character set - Uppercase Alphas, Numerals and SPACE only) as described within ISO 16022:2006. Full details of the required Mailmark 2D code content is provided in the Barcode Definition Document.	M
	Size & Shape	• The Mailmark 2D code must have a module size of 0.5 – 0.7mm	M
		• Every module must be square.	M
		• The Mailmark 2D Code must be orientated horizontally or vertically but must not intentionally be printed with any degree of skew.	M
	Clear Zone	• No other text, patterning, or graphics shall be printed in an area around the 2D code that is at least 4 times the module size (i.e. at least 2mm when the module size is 0.5mm, and at least 2.8mm when the module size is 0.7mm).	M
		• The clear zone requirements apply at all times, including when windows envelopes are used and after the Letter is tapped on all four edges, to induce maximum insert movement i.e. The whole of the 2D code and the Delivery Address block together with their required clear zones must be visible at all times.	M
	Location	See below	
	Print Quality	• The 2D code shall be printed in black on a background that is of consistent contrast by design, with a positive contrast for the symbol (dark on a light background).	M
		• The 2D code must be printed to ISO 15415:2011 grades 4(A) or 3(B) when read under white light. Note: A and B are the equivalent ANSI standards understood by American standard users. (A Module size of 0.5mm equates to 6 dots when printed at 300dpi, whilst a module size of 0.7mm equates to 8 dots when printed at 300dpi).	M
		• No other text, patterning, or graphics shall be printed in the area occupied by the 2D code.	M
		• Printing or embossing of security backgrounds, if essential, should be faint, of uniform consistency and be on the inside of the envelope.	L [1]

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[1] The presence of security backgrounds or embossing may limit 4-State barcode reading performance. Such instances are infrequent.

	Category	Specification Requirement	M/R
4-State Barcode		The 4-State barcode is a barcode that uses 4-State symbology. The data is encoded to produce a barcode that includes bars in 4 possible states - "D" = Descender bar, "A" = Ascender bar, "F" = Full bar, "T" = Track bar (DAFT). Two codes are available: • Barcode C – Consolidators – 66 bars, and up to 84mm long • Barcode L – High volume Mailers - 78 bars and up to 99mm long.	
	Data Content	The code content must be aligned to the human readable attributes that are printed on the Letter, and be appropriate for the product used.	M
	Size & Shape	• The 4-State barcode must be printed at a pitch of 20-24 bars per 25.4mm.	M
		• The barcode pitch must be consistent throughout the length of the code.	M
		• The Ascender and Descender bars are 1.6 to 2.16 mm high, the Track bar is 1.02 to 1.52 mm high, and the bar width is 0.38 to 0.63 mm, with the full bar being 4.22mm to 5.84mm high. The width requirements apply throughout the whole bar. i.e. No part of the bar can be less than 0.38mm wide or greater than 0.63mm wide.	M
		• The print quality must be consistent throughout the code. i.e. There must be no gaps between printed dots that may be used to print the code.	M
	Symmetry & Skew	• The vertical alignment of the code must be consistent. The track element of the bars must be symmetrical about the centre line of the code, plus or minus 10% of the height of the centre line (see Figure 15).	M
		• The barcode skew must be less than 5º	M
	Code Clear Zone	• A clear zone of 2mm must be maintained on all four sides of the 4-State barcode.	M
		• The clear zone requirements apply at all times, including when window envelopes are used and after the mail item is tapped on all four edges, to induce maximum insert movement (i.e. the whole of the 4-State barcode and the address block together with their required clear zones must be visible at all times.	M
	Location	See below	
	Print Quality	• The 4-State barcode must be printed in a contrast medium, typically black bars on a white background.	M
		• No other text, patterning, or graphics shall be printed or present in the barcode area and its clear zone (i.e. this may be design graphics or Letter substrate characteristics).	M
4-State Barcode Cont.	**Print Quality Cont.**	• A minimum Print Contrast Ratio (PCR) and a minimum Reflective Difference (RD) must be applied. These values are: 　　○ Minimum PCR is 40% 　　○ Minimum RD is 30%	M
		• The print quality shall be consistent throughout the bars.	H [2]
		• The edges of the 4-State Mailmark barcode should be sharp and clearly defined.	H [2]
		• Printing or embossing of security backgrounds, if essential, should be faint, of uniform consistency and be on the inside of the envelope.	L [1]

Category	Specification Requirement	M/R
Location – 2D & 4-State Codes	The Mailmark barcode must not be printed in the border area • Landscape - 15mm to the top, left, right, and the bottom where the Mailmark code is printed a paper, paper wrap, polymer envelope or where it is printed on an insert (carrier sheet) in a poly wrapped Letter.	M
	• Portrait - 15mm to the top, left, right, and the bottom where the Mailmark code is printed a paper, paper wrap, polymer envelope or where it is printed on an insert (carrier sheet) in a poly wrapped GLL and Parcel.	M

[2] Ink jet 4-State codemarks that consist of individual dots (rather than a complete bar) may be read. However, any reduction in print quality may limit 4-State barcode reading performance.

Category	Specification Requirement	M/R
	• Where there is Lateral Movement of the Insert within a Polymer Wrap GLL and Parcel and the address is printed on the film, if the outer is larger than the insert, the border clear zone increases because the excess film may fold under the insert during processing. The Mailmark Code must not encroach into a border of 15mm, plus the amount of excess poly (this is lateral insert movement) which can be a maximum of 30mm. e.g. 20mm excess poly plus the 15mm border clear zone requirement means that the barcode would be printed 35mm from the edge of the wrap	M
	• The Mailmark Code may be printed within the Indicia Area provided the Indicia and Mailmark clear zones are maintained.	M
	• The code must not be printed over the edge of the envelope flap, on a zip tie or under the longitudinal seal.	M

2.2 Barcode Structure

- The Barcode specification will reflect:
    - o the key changes to 'CLASS' and 'Format'
    - o Change from RTS Flag to Service Type (this is the 'format' requirement for 2D barcodes)

2.3 Participant and Supply Chain set up

- Customers are required to use valid Supply Chain IDs for their General Large Letter or Parcel Mailings.
- New SCIDS are not required, existing can be used across all formats.
- 2-digit Consolidator SCIDs will not be allocated.
- There is no change to the request and set- up process.

2.4. eManifest uploads

- There is no change to current requirements and timings for eManifest uploads.
- The eMHS system will reflect
    - o The key changes to 'CLASS' , 'Format' and 'Service Type'

2.5. eManifest and Barcode selection

Please note this additional information to support you in the correct eMHS and barcode creation.

a. A customer posting **Access Parcels** using a 2D barcode would select Service Type 4 and Machineability E

Service Type (2D barcode)	Machinability (eMHS)
4 - Parcel	E - Mailmark

b. A customer posting **Access Parcels** using a 4state barcode would select Format Value 4 and Machineability E

Format Values (4state barcode)	Machinability (eMHS)
4 - Parcel	E - Mailmark

c. A customer posting **manual Mailmark** Large Letters, including existing Mailmark Large Letters, using a 2D barcode would select Service Type 1 and Machineability E

Service Type (2D barcode)	Machinability (eMHS)
1- Mailmark Large Letter	E - Mailmark

d. A customer posting **manual Mailmark** Large Letters using a 4state barcode would select Format Value 2 and Machineability E.

Format Values (4state barcode)	Machinability (eMHS)
2 - Mailmark Large Letter	E - Mailmark

Note: Access Parcels and General Large Letters are machineable when posted under the '70' way sort product and may be machined under the '1400' way sort product. For simplicity, both 70 and 1400 variants have a machineability value of E.

2.6. Product Codes.

Access General Large Letters

Service	Code	Description	Format	Container	National / Zonal	Vat Status
Standard	DL1	70__ LRG LTR GEN MN EIB TRAY	LRG LTR	TRAY	National	Tax Exempt (Vat Exempt)
Standard	ZL5	70__ LRG LTR GEN MN EIB TRAY	LRG LTR	TRAY	Zonal	Tax Exempt (Vat Exempt)
Standard	DL3	70__ LRG LTR GEN MN EIB BAGS	LRG LTR	BAG	National	Tax Exempt (Vat Exempt)
Standard	ZL7	70__ LRG LTR GEN MN EIB BAGS	LRG LTR	BAG	Zonal	Tax Exempt (Vat Exempt)
Standard	ZL8	1400__ LRG LTR GEN MN EIB TRAY	LRG LTR	TRAY	Zonal	Tax Exempt (Vat Exempt)
Standard	DL4	1400__ LRG LTR GEN MN EIB TRAY	LRG LTR	TRAY	National	Tax Exempt (Vat Exempt)
Standard	ZQ1	1400__ LRG LTR GEN MN EIB BAGS	LRG LTR	BAG	Zonal	Tax Exempt (Vat Exempt)
Standard	DL6	1400__ LRG LTR GEN MN EIB BAGS	LRG LTR	BAG	National	Tax Exempt (Vat Exempt)
Premium	ZL6	70__ LRG LTR GEN MN EIB TRAY Z PRM	LRG LTR	TRAY	Zonal	Full Tax
Premium	ZL9	1400__ LRG LTR GEN MN EIB TRAY Z PRM	LRG LTR	TRAY	Zonal	Full Tax

Access Parcels

Service	Code	Description	Format	Container	National / Zonal	Vat Status
Standard	DN7	70__ PARCELS EIB BAGS	Parcels	BAG	National	Full Tax
Standard	ZT1	70__ PARCELS EIB BAGS	Parcels	BAG	Zonal	Full Tax
Standard	DHW	1400 PARCELS EIB BAGS	Parcels	BAG	National	Full Tax
Standard	ZV3	1400 PARCELS EIB BAGS	Parcels	BAG	Zonal	Full Tax
Premium	ZT4	70__ PARCELS EIB BAGS Z PRM	Parcels	BAG	Zonal	Full Tax
Premium	ZV5	1400 PARCELS EIB BAGS Z PRM	Parcels	BAG	Zonal	Full Tax

3 Addressing layout

Minimum of 90% Address and Postcode accuracy to PAF (Postcode Address File)
DPS Accuracy is not required currently as walk sequencing is not done at present for those items not processed on our letter and large letter automation.

Format	Pack Type	Mailpiece Picture Frame Border Clear Zone	Label Picture Frame Border Clear Zone	Indicia Location	Return Address *(Must meet the Return Address Spec)*	Delivery Address
Labels applied **General Large Letters and Parcels**	Box format i.e. rigid sides Wedge shaped items Jiffy bags	30mm	5mm	Top Right	Top Left	Below and to the left of the Indica
	Plastic or polymer wrapped items	30mm + Lateral Movement	5mm	Top Right	Top Left	Below and to the left of the Indica, Not under any seal
	Tubes	30mm Left & Right	5mm	Top Right	Top Left	Below and to the left of the Indica
Address, indicia, barcode applied directly to the item **General Large Letters and Parcels**	Box format i.e. rigid sides Wedge shaped items Jiffy bags	30mm	-	Top Right	Top Left	Below and to the left of the Indica
	Plastic or polymer wrapped items	30mm + Lateral Movement	5mm	Top Right	Top Left	Below and to the left of the Indica,
	Tubes	30mm Left & Right	-	Top Right	Top Left	Below and to the left of the Indica

Standard 5mm Indicia and Address clear zones to be maintained.

Rationale for linking General Large Letter and Parcel
- No clear demarcation between machine and unmachineable Large Letter.
- Provides a single methodology with parcels standards being more stringent.
- Enables Parcel Sorting Machine processing and limits the possibility for the address content being obscured during manual processing.

4   Addressing standards

This section defines the address requirements to ensure that sufficient address content is provided to enable Royal Mail to read the address, and to deliver the mail to the correct address.

These standards enable the item to be read through Optical Character Recognition and processed efficiently and accurately.

Please note: While a full and accurate Postcode, as matched to PAF®, is required and mandatory in the eManifest and barcode, the inclusion of a Delivery Point Suffix (DPS) is not mandatory for manual Mailmark GLLs and Parcels. However, where a postcode has been included, a default of 9Z is required to ensure the postcode structure and length is correct in the barcode. All remaining barcode and Delivery Address requirements remain as current.

	Category	Specification Requirement	
Delivery Address	**Delivery Address Components**	Mailer Defined Information VJC100 (if required) Addressee Ms A N Other] Organisation Royal Mail] Delivery Thoroughfare 185 Farringdon Road] Address Locality London] block Postcode EC1A 1AA]	**M**
	General	- Only one Delivery Address must be printed on the Parcel or General Large Letter - The Delivery Address must be printed on the front of the Parcel or General Large Letter, on the same side and in the same orientation as the Indicia. - No other addresses and nothing else that can be construed as looking like a Delivery Address must be printed on the Parcel or General Large Letter (except for the Return Address). - It may be wholly printed in English, or wholly in Welsh where a Welsh address is provided in PAF. The inclusion of addresses printed in a combination of English and Welsh is not permitted. - Where packaging is re-used, all previous address and barcode content must be removed or totally covered and obscured.	**M**
	Mailer Defined Information (Optional)	Mailer Defined Information (MDI) may optionally be included as an additional single line immediately above the addressee name. It must not include a barcode of any kind. - The mailer defined information should be in a typeface (not underlined) and may comprise letters, numerals, punctuation marks, and ideograms in a single line above the addressee e.g. a reference number or SSC. - The mailer defined information should be left justified and aligned to the rest of the Delivery Address block. - The content may be of a different font and size to the other Delivery Address block elements. - The line spacing should be consistent with the rest of the Delivery Address block. - The length of the mailer defined information should not exceed 64 characters.	**M**
Delivery Address Cont.	**Content**	- The Delivery Address must be a PAF address. - A maximum of 2 lines of addressee information may be included above the PAF address. - The number of characters per line of the return address block should not exceed 64 characters (including spaces). - No counties or UK countries should be included within the Delivery Address block.	**M**

	Category	Specification Requirement	
	Structure & Format	• The Delivery Address must be provided as a 'block' of left justified text with uniform line spacing (1-4mm) and with no blank lines. • Each individual element of the address must be on a separate line. Note that the house number and the street name must always be printed on the same line. • The Postcode must always be printed in 'UPPER CASE' and must be on the last line of the delivery address. • There should be a gap of 1-2 spaces between the 2 parts of the postcode. • The post-town may precede the postcode on the last line of the address provided that they are separated by 1-2 spaces. i.e. London EC1A 1AA • Only punctuation that is included with the PAF address should be included, or alternatively all punctuation may be removed. • The Delivery Address should be printed in 'Title Case' (preferred) or 'UPPER CASE'. • The word spacing should be 1-2 spaces and no more than 5mm.	M

	Preferred Fonts	• A Single font should be used for the whole Delivery Address block and this should be printed using:
		   ○ 10-12pt Letter Gothic or Lucida Console fonts
		   ○ Normal character spacing
		   ○ Pitch set at 10-12 characters per inch.
			R

	Alternative Fonts	Alternative Non-Proportionally Spaced Fonts are: Courier , Courier New, Lucida Sans Typewriter, Word, Gothic Acceptable Proportionally Spaced Fonts are: Arial, Calibri, Estrangelo Edessa, Eurostile, Frankfurt Gothic, Franklin Gothic (Book), Gautami, Geneva, Gill Sans, Helvetica, Latha, Lucida Sans, Mangal, News Gothic MT, Ravi, Shruti, Trebuchet MS, Univers, Verdana	R
	Fonts - General	Any fonts that are used should be simple and easy to read. The following recommended specifications should be followed: • *Italic*, **bold**, pseudo script, serifs, computer zero (Ø) and <u>underlining</u> must be avoided • There should be clear vertical gaps of at least 0.25mm between extremities of adjacent characters. • Height: 2mm min, 7mm max, Width: 7mm max. • Ratio of lower-case height (b) to 'UPPER CASE' height (a) of between 2:3 and 3:4; and ratio of width (c) to height (a) of approximately 2:3. • Character quality must be complete, clear and of high resolution, with individual stroke having a uniform thickness of 8% - 16% of the height of the character.	R
Delivery Address Cont.	**Print Quality**	• The Delivery Address block should be printed in black on a white background • The Delivery Address block MUST be printed using a dark colour (NOT red) on a light background. • The paper opacity value should be at least 85 % (BS ISO 2471 - Paper and board. Determination of opacity (paper backing)). • The contrast ratio for addresses printed on envelopes should be at least 50 % (window inserts 55%). • Print quality must be such that characters are not blurred, smudged, deformed, or incomplete. • There must be no splashing or ink spatter around the characters • We recommend that you regularly check the quality of your print output for clarity;	M

Category		Specification Requirement	
Return Address	**Location**	- The Delivery Address block must be positioned on the top of the parcel in an area that is parallel to the bottom of the Parcel. - The Delivery Address block must be positioned below and to the left of the Indicia. - The Delivery Address block must not be printed in the Indicia Area, or within 20mm of the edge of the Parcel. - A clear zone of at least 5mm is required around the Delivery Address block (including the MDI). No text, patterning, or graphics must be printed within the Delivery Address block and its clear zones. - The Delivery Address block must not encroach into the barcode clear zones.	M
	Window Clear Zone	Where the address is located beneath a window, a minimum clear zone of 2mm within the window and 3mm on the envelope should be used. The clear zone requirements apply at all times, including after the Parcel is tapped on all four edges to induce maximum insert movement. i.e. The whole of the PAF Delivery Address must be visible at all times.	M
	Return Address Example	Return Address Royal Mail Rowland Hill House Swindon SN3 5TQ	
	General	- Only one return address must be printed on the Parcel or General Large Letter - Nothing else that looks like a return address must be printed on the Parcel or General Large Letter. - The return address may be printed in English or Welsh (where provided in PAF). The inclusion of return addresses printed in both English and Welsh is not permitted.	M
	Content	- The return address must be prefixed with the words Return Address. - The return address must be a PAF address that includes a premise element, thoroughfare element, locality, and the postcode. - The addressee information must be included on the second line of the return address block. - The number of characters per line of the return address block should not exceed 64 characters (including spaces). - No counties or UK countries should be included within the return address block.	M
Return Address Cont.	**Structure & Format**	- The return address must be provided as a 'block' of left justified text with uniform line spacing (1-4mm) and with no blank lines. - The return address must be printed in 'Title Case', with the exception of the Postcode that must always be printed in 'UPPER CASE'. - Each individual element of the address must be on a separate line. Note that the house number and the street must always be printed on the same line. - The Postcode must be printed on the last line of the address or may be printed on the same line as the post-town (with a gap of 1-2 spaces) - Only punctuation that is included with the PAF address should be included, or alternatively all punctuation may be removed. - The word spacing must be no more than 5mm.	M
	Fonts	- The Letter Gothic or Lucida Console font must be used for the whole return address and this must be printed using: 10-12pt font (12pt preferred) - Normal character spacing - Pitch set at 10-12 characters per inch.	M
	Print Quality	The same specifications as apply to the Delivery Address must be met.	M

Category		Specification Requirement	
	Location	The return address must be either located: • On the back of the Parcel or General Large Letter. This is the preferred location as it avoids any confusion with the Delivery Address block. • On the front of the Parcel or General Large Letter and in the same orientation as the Delivery Address Block Parcel in the top left corner (with no element closer 10mm to the Delivery Address.) [3]	M
	Clear Zones	• No text, patterning, or graphics must be printed within the return address. • There must be a clear zone of 5mm around the return address. • The Return Address must not encroach into the barcode clear zones.	M

5 Weights and dimensions

5.1 Parcels

Please refer to Wholesale Parcel Contract User Guide

Dimensions larger than 353mm x 250mm with a thickness of over 25mm and a weight over 750gms
The maximum dimensions if rectangular, are no larger than 610mm x 460mm x 460mm and, if cylindrical, has a maximum length of 900mm and the Parcel length when added to twice the diameter does not exceed 1040mm.
Parcels must weigh no more than 2kg

5.2 General Large Letters

See details within Access Letters User Guide

Maximum dimensions: 353mm x 250mm
Maximum thickness: 25mm
Weight: Minimum – 10g   Maximum – 750g

6 Presentation

This section provides an overview of container types you can use to present Manual Mailmark Parcels and Manual Mailmark General Large Letters. For general container requirements please also refer to the Wholesale Parcel Contract User Guide and Access Letters User Guide (as applicable).

6.1 Parcels

	Bags	Trays	ALPS
Manual Mailmark DSA Parcels Access 70 / Access 1400	Yes	No	Yes

6.2 General Large Letters

	Bags	Trays	ALPS
Manual Mailmark General Large Letters Access 70 / Access 1400 less than 10mm thickness	Yes	Yes	No
Manual Mailmark General Large Letters Access 70 /1400 more than 10mm thickness	Yes	No	Yes

7 Container Labelling

Please refer to Section 7 of the Access Letters User Guide and within Wholesale Parcel Contract User Guide (as applicable) which sets out the standard labelling requirements which also apply to Manual Mailmark Parcels and Manual Mailmark General Large Letters.

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[3] Note the the Return Address on COSS labels is at 90 degrees to the Delivery Address.