

Quick guide to OCR

Quick guide to Optical Character Recognition (OCR)

This quick guide will provide you with an understanding of what key attributes are needed for the OCR specification so you can create and design letters which can then be posted meeting OCR requirements.

The details in this quick guide are taken from the Royal Mail's main OCR specification which can be found in the relevant up to date Royal Mail User Guide¹. The full Royal Mail User Guide must be referred to when preparing your letters, to ensure compliance to all Royal Mail tariff and presentation guidelines as well as the OCR guidelines specifically. For additional help, please ask your account manager.

This quick guide is split in to three sections:

Sections 1 and 2 apply to all letters you create and design. In addition, section 3 applies if the letter has additional design features, such as perforations.

- Section 1 - Physical design
- Section 2 - Machine readability
- Section 3 - Additional design features

Each section is split in to key criteria groups with associated attributes listed as 'Primary' or 'Secondary'.

Primary means Royal Mail may check your mail upfront as part of their revenue protection process, upon receipt of your mail at the point of injection by Citipost Mail at the Royal Mail Inward Bound Mail Centres. You will achieve maximum efficiencies and ensure your letters are delivered in their intended condition if all elements of the specification detailed below are achieved. Please refer to Royal Mail's full user guide for more information¹.

As a customer of Citipost Mail, you will only need to refer to sections 1 and 2 for the design and production of letters typically sent via OCR. The 'Impact' column determines the operational impact on Royal Mail's automation if the attribute is not achieved on your OCR mailing. As a result of any non-compliance (where the OCR guidelines are not met), Royal Mail may revert mail to the normal tariff price (removing the OCR discount) any reversions from Royal Mail will be passed back to the original posting customer accordingly. This is relevant to any corrective action which may be applied.



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1. Physical design		
1.1. Letter format		Impact
Primary	Letter format only	High
	Max 240mm x 165mm	High
	Min 140mm x 110mm	High
	Maximum 100g	High
	Max 5mm thick	High
	Min 0.25mm thick	High
	Rectangular, (landscape only) or square: <ul style="list-style-type: none"> All 4 sides to be 90 degrees All edges to be straight 	High
Secondary		

1.2. Letter material and design		Impact
Primary	Constructed of paper	High
	Delivery Address Block positioned within specified area (see J tool ²)	High
	Display an approved indicium/indicia ³ of the correct size and positioning	High
	Clear zones for Royal Mail route + tag codes (see J tool)	High
Secondary	The letter must be able to bend so it is capable of being transported round the arc of pulleys	Low
	Lateral movement does not exceed the current specification	High
	Opacity of $\geq 85\%$ for envelope paper	High
	Porosity of 700ml/minute	High
	Print contrast ratio for addresses printed on envelopes $\geq 50\%$	High



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Print contrast ratio for addresses printed on envelopes $\geq 50\%$	High
Print contrast ratio for addresses printed on an insert $\geq 55\%$	High
No metal content (small staples or paperclips accepted)	High
Window(s) on one side must not exceed 50% of the letter	High
Absorbency of 15-35gsm of water per minute	High
Gloss value of the window material ≤ 150 when measured at 60° (ASTM 2457)	High
Window haze $\leq 75\%$ when measured ASTM D1003-00	High
Window to be constructed of film (open apertures not allowed)	High
All 4 sides must be sealed	High
Paper weight (minimum) <ul style="list-style-type: none">Envelope 70gsmPostcard 200gsm	High
Pale or pastel colours	High
There are no more than 2 windows on the front of the letter. The second window must not contain text that looks like an address	High
Inserts other than paper are glued to the main insert so they don't move around	Low
Background reflectance on which the address is printed to be 35% in the red region (600nm) - measure by spectral reflectometer	High
Reflective difference of $\geq 30\%$	High
Window material is robust and securely fixed	High
Flap sealed 25mmx35mm when presented in bags	High
Flap sealed 35mmx35mm when presented in trays	High



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2. Machine readability		
2.1. Address content and positioning		Impact
Primary	At least 90% (95%3) accurate to PAF® ⁴	High
	The Delivery Address Block is to be positioned 15mm from the top, left and right edge and 18mm from the bottom edge (see J tool)	High
	Minimum 5mm clear zone around the geographic address and company name when included and to remain visible and be legible at all times (see J tool)	High
	The postcode must be in capitals and on the last line of the address	High
	No blank lines within the Delivery Address Block	High
	Max skew 5° of the Delivery Address Block	High
	Secondary	Only one Delivery Address Block on the front on the letter
Country name excluded		Low
Addressee details to remain visible at all times		High
The number of characters in each line (including spaces) does not exceed 64		Low
Punctuation corresponds with PAF®		Low
Any Mailer Defined Information (MDI) is included as part of the Delivery Address Block		Low

2.2. Address formatting		Impact
Primary	One or two character spaces between the outward and inward part of the postcode	High
	The whole of the address is in the same type face and font size (between 10-12pt)	High



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	Fonts must not be: <ul style="list-style-type: none"> • <i>Italic</i> • Handwritten • Bold 	High
	Spacing between individual words is < 5mm	High
	Each element of the address on a separate line	High
	Left justified	High
Secondary	Even spaces between each line of the address and individual characters	Low
	Use one of the recommended fonts listed in the Royal Mail User Guide	Low
	The address in is title case	Low

2.3. Return address:		Impact
Primary	A UK return address	Low
	Matches PAF®	Low
	It is identified as a return address, e.g. precede it with the words 'return address'	Low
Secondary	It is positioned on the: <ul style="list-style-type: none"> • Back of the Letter • At the top • Left justified • Lucida Console or Letter Gothic fonts of 10-12pt • Preceded by the words Return Address • In a central area 40mm x 40mm 	Low Low Low Low Low Low
	If positioned on the front then the same as above with the exception of positioning where it must be in an area no lower that 40mm from the top and no less than 75mm from the right hand edge	High



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3. Additional design features:		
3.1. Zip tie perforations:		Impact
Primary	Be die cut	High
	On the back of the letter	High
	Located on a flap ≤ 40 mm wide	High
	Located ≥ 9 mm from the edge of the flap	High
Secondary	Glue to be cured and to remain inside the letter	High
	Paper weight ≥ 150 gsm	Low
	One zip tie on the letter	High
	Tear in relation to indicium/indicia	High
	Cuts and bridges to be of uniform size	Low
	Peel adhesion strength of glue to be ≥ 4.5 N	Low

3.2. Roulette perforations:		Impact
Primary	Be die cut	Low
	Perforations to be on max of 3 sides with one being the longest side	High
	Longer perforation to 'fit within' the shorter perforations - i.e. H	High
	Perforations are inset 12mm (± 1 mm) from the edge of the letter	Low
Secondary	Glue to be cured and to remain inside the letter	High
	Paper weight ≥ 100 gsm	Low
	Perforations on any short side to be inset at 1.3-2mm and a bridge of ≥ 0.8 mm	Low
	Perforations on any long side to be inset 0.5-1.4mm and a bridge of ≥ 0.4 mm	Low
	Cuts and bridges to be of uniform size	Low
	Short side perforations to extend from the envelope edge	Low



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	Perforations not to go over the indicium/indicia	Low
	Perforated edges must be sealed	High
	Peel adhesion strength of glue to be $\geq 4.5N$	Low

3.3. Pressure seal:		Impact
Primary	Be die cut	Low
	Letter is produced from a single sheet of paper	High
	Perforations to be on both short sides	High
Secondary	DL design must be $\geq 100gsm$ (3ply)	Low
	C5 design must be $\geq 150gsm$ (2ply)	Low
	Landscape orientation	Low
	Any roulette tear to be on the back	High
	One roulette tear	Low
	Perforations to be set at 1.3-2mm and a bridge of $\geq 0.8mm$	High
	Cuts and bridges to be of uniform size	High
	Short side perforations to extend from the envelope edge	Low
	Perforations not to go over the indicium/indicia	Low
	Perforated edges must be sealed	High
	Peel adhesion strength of glue to be $\geq 4.5N$	Low
	Cuts to be rectangular and have a width of $\leq 0.1mm$	Low
	Located $>10mm$ from the long edge and $>10mm$ wide	High
	Cut must be $<3.3mm$ and a bridge of $>0.6mm$	Low
	Long perforated edge may extend on to the short perforated edge	High
	Sealing adhesive to be <80 microns thick	Low
Glue to be cured and to remain inside the letter	High	



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3.4. Windows on the front and back:		Impact
Primary	Window on the back: <ul style="list-style-type: none">• Be circular• A diameter of $\leq 48\text{mm}$• Perimeter of the window be $31\text{mm} (\pm 2\text{mm})$ from the bottom and centred	High Low Low
Secondary	Paper inserts only	Low
	Window on the front must be rectangular, and be positioned 18mm from bottom edge and each side	Low
	Min length 212mm	Low
	Min height 110mm	Low
	Max length 240mm	Low
	Max thickness 1mm	Low
	Only one window on each side	Low
	Max weight 20g	Low



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¹ For Downstream Access Services through Citipost Mail the full OCR specification is detailed in its own Appendix of both the 'User Guide for Condition 9 Access Services' and the 'Access Letters User Guide'. Customers must ensure their posting complies with the most up to date Royal Mail User Guides; this 'Citipost Mail Quick Guide to OCR' document is a reference guide only.

² The J tool is a multi-purpose plastic template which enables you to measure and check certain attributes of your letter against the OCR specification. If you require a J Tool please request this from your account manager.

³ Indicium/indicia have the same meaning but are relevant to terminology used within Access and Retail.

⁴ A minimum 95% address and postcode accuracy is required for certain services.

