

The postage package*

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1 Introduction

The postage package is used for franking letters with »Deutsche Post«'s online postage service »Internetmarke«.

2 Usage

2.1 Requirements

Note that in order to print valid stamps the `{<file>}` argument of any of this package's commands must point to a valid PDF of »Deutsche Post«'s »Ausdruck 4-spaltig (DIN A4)« format.¹

2.2 Commands

`\includestamp` The `\includestamp[<options>]{<file>}` command loads a single stamp from the

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¹See also section 4.

file specified in its mandatory `{<file>}` argument and draws it on the page. The additional `[<options>]` can be used to specify the stamps position in the `{<file>}` and the stamp's appearance.

Options [`<options>`]

<code>style=(normal compact)</code>	The stamp's appearance; may either be <code>normal</code> or <code>compact</code> .
<code>normal</code>	Set the stamp's appearance to <code>normal</code> . Same as <code>style=normal</code> .
<code>compact</code>	Set the stamp's appearance to <code>compact</code> . Same as <code>style=compact</code> .
<code>page=<1...></code>	The stamp's page from which to copy the stamp from the stamps PDF file. Pages count from 1.
<code>row=<1...8></code>	The stamp's row on the page. Rows count from 1 to 8.
<code>column=<1...4></code>	The stamp's column on the page. Rows count from 1 to 4.

Example

The following code generates figure 1:

```
1 \includestamp{sample-stamps}
```

or

```
1 \includestamp[page=1,row=1,column=1,normal]{sample-stamps}
```

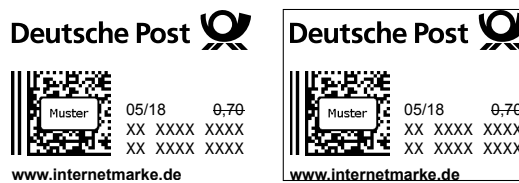


Figure 1: A normal-sized stamp (taken from »Deutsche Post«'s sample PDF).

The following code generates figure 2:

```
1 \includestamp[compact]{sample-stamps}
```

or

```
1 \includestamp[row=1,column=1,style=normal]{sample-stamps}
```



Figure 2: The same stamp in its compact representation.

3 Implementation

3.1 Initialization

3.1.1 Options

Define the stamp's display styles, the default display style and the according command options `style`, `compact` and `normal`.

```
1 \def\postage@stamp@style@normal{normal}
2 \def\postage@stamp@style@compact{compact}
```

```

3 \let\postage@current@stamp@style\postage@stamp@style@normal
4 \define@key{postage}{style}{%
5   \def\postage@current@stamp@style{#1}%
6 }
7 \define@key{postage}{compact}[true]{%
8   \let\postage@current@stamp@style\postage@stamp@style@compact%
9 }
10 \define@key{postage}{normal}[true]{%
11   \let\postage@current@stamp@style\postage@stamp@style@compact%
12 }

```

Define the stamp's page, row and column on the »Internetmarke« PDF, their defaults and the according command options page, row and column.

```

13 \def\postage@current@stamp@page{1}
14 \def\postage@current@stamp@row{1}
15 \def\postage@current@stamp@column{1}
16 \define@key{postage}{page}{%
17   \def\postage@current@stamp@page{#1}%
18 }
19 \define@key{postage}{row}{%
20   \def\postage@current@stamp@row{#1}%
21 }
22 \define@key{postage}{column}{%
23   \def\postage@current@stamp@column{#1}%
24 }

```

3.1.2 Lengths

Create the lengths describing the stamp's position, height and width on the PDF page as well as each stamp's parts relative to the stamp's position.

```

25 \newlength{\postage@page@width}
26 \newlength{\postage@page@height}
27 \newlength{\postage@grid@width}
28 \newlength{\postage@grid@height}
29 \newlength{\postage@grid@x}
30 \newlength{\postage@grid@y}
31 \newlength{\postage@stamp@content@width}
32 \newlength{\postage@stamp@content@height}
33 \newlength{\postage@stamp@content@x}
34 \newlength{\postage@stamp@content@y}
35 \newlength{\postage@stamp@barcode@width}
36 \newlength{\postage@stamp@barcode@height}
37 \newlength{\postage@stamp@barcode@x}
38 \newlength{\postage@stamp@barcode@y}
39 \newlength{\postage@stamp@barcode@text@width}
40 \newlength{\postage@stamp@logo@width}
41 \newlength{\postage@stamp@logo@height}
42 \newlength{\postage@stamp@logo@x}
43 \newlength{\postage@stamp@logo@y}

```

Save the lengths describing »Deutsche Post«'s »Internetmarke« in its »Ausdruck 4-spaltig (DIN A4)« format. All measurements below have been taken from »Deutsche Post«'s official sample PDF using the Inkscape vector editor with a precision of $\pm 0.0005\text{mm}$

```

44 \setlength{\postage@page@width}{209.99979mm}
45 \setlength{\postage@page@height}{296.99973mm}
46 \setlength{\postage@grid@width}{40mm}
47 \setlength{\postage@grid@height}{32.999mm}
48 \setlength{\postage@grid@x}{22.5mm}
49 \setlength{\postage@grid@y}{14.05473mm}
50 \setlength{\postage@stamp@content@width}{31.639mm}

```

```

51 \setlength{\postage@stamp@content@height}{22.473mm}
52 \setlength{\postage@stamp@content@x}{3.024mm}
53 \setlength{\postage@stamp@content@y}{2.855mm}
54 \setlength{\postage@stamp@barcode@width}{30.862mm}
55 \setlength{\postage@stamp@barcode@height}{11.01mm}
56 \setlength{\postage@stamp@barcode@x}{3.009mm}
57 \setlength{\postage@stamp@barcode@y}{11.029mm}
58 \setlength{\postage@stamp@barcode@text@width}{15.732mm}
59 \setlength{\postage@stamp@logo@width}{31.639mm}
60 \setlength{\postage@stamp@logo@height}{5.282mm}
61 \setlength{\postage@stamp@logo@x}{3.024mm}
62 \setlength{\postage@stamp@logo@y}{2.855mm}

```

Create temporary lengths that are calculated individually for each stamp.

```

63 \newlength{\postage@current@stamp@x}
64 \newlength{\postage@current@stamp@y}
65 \newlength{\postage@current@stamp@trim@left}
66 \newlength{\postage@current@stamp@trim@bottom}
67 \newlength{\postage@current@stamp@trim@right}
68 \newlength{\postage@current@stamp@trim@top}

```

3.2 Calculating position

`\postage@current@stamp@position`

Calculate the current stamp's position on the page based on its row and column options.

```

69 \newcommand{\postage@calculate@current@stamp@position}{
70   \setlength{\postage@current@stamp@x}{
71     \postage@grid@x +
72     \postage@grid@width *
73     (\postage@current@stamp@column - 1)
74   }%
75   \setlength{\postage@current@stamp@y}{
76     \postage@grid@y +
77     \postage@grid@height *
78     (\postage@current@stamp@row - 1)
79   }%
80 }

```

3.3 Drawing

`\postage@draw@current@stamp@part`

Draw a part of the current stamp whose trim offsets were previously calculated using `\postage@calculate@current@stamp@position`.

```

81 \newcommand{\postage@draw@current@stamp@part}[1][[]]{%
82   \includegraphics[page=\postage@current@stamp@page, trim={
83     {1\postage@current@stamp@trim@left}
84     {1\postage@current@stamp@trim@bottom}
85     {1\postage@current@stamp@trim@right}
86     {1\postage@current@stamp@trim@top}
87   }, clip, #1]{\postage@current@stamp@file}%
88 }

```

`\postage@draw@current@stamp@content`

Draw the current stamp's whole content trimming whitespace around it.

```

89 \newcommand{\postage@draw@current@stamp@content}{%
90   \setlength{\postage@current@stamp@trim@top}{
91     \postage@current@stamp@y +
92     \postage@stamp@content@y
93   }%
94   \setlength{\postage@current@stamp@trim@left}{
95     \postage@current@stamp@x +

```

```

96     \postage@stamp@content@x
97   }%
98   \setlength{\postage@current@stamp@trim@bottom}{
99     \postage@page@height -
100    \postage@current@stamp@trim@top -
101    \postage@stamp@content@height
102  }%
103  \setlength{\postage@current@stamp@trim@right}{
104    \postage@page@width -
105    \postage@current@stamp@trim@left -
106    \postage@stamp@content@width
107  }%
108  \postage@draw@current@stamp@part%
109 }

```

`\postage@draw@current@stamp@barcode` Draw only the current stamp's barcode (and the included number code).

```

110 \newcommand{\postage@draw@current@stamp@barcode}{%
111   \setlength{\postage@current@stamp@trim@top}{
112     \postage@current@stamp@y +
113     \postage@stamp@barcode@y
114   }%
115   \setlength{\postage@current@stamp@trim@left}{
116     \postage@current@stamp@x +
117     \postage@stamp@barcode@x
118   }%
119   \setlength{\postage@current@stamp@trim@bottom}{
120     \postage@page@height -
121     \postage@current@stamp@trim@top -
122     \postage@stamp@barcode@height}%
123   \setlength{\postage@current@stamp@trim@right}{
124     \postage@page@width -
125     \postage@current@stamp@trim@left -
126     \postage@stamp@barcode@width
127   }%
128   \postage@draw@current@stamp@part%
129 }

```

`\postage@draw@current@stamp@logo` Draw only the current stamp's »Deutsche Post« logo.

```

130 \newcommand{\postage@draw@current@stamp@logo}{%
131   \setlength{\postage@current@stamp@trim@top}{
132     \postage@current@stamp@y +
133     \postage@stamp@logo@y
134   }%
135   \setlength{\postage@current@stamp@trim@left}{
136     \postage@current@stamp@x +
137     \postage@stamp@logo@x
138   }%
139   \setlength{\postage@current@stamp@trim@bottom}{
140     \postage@page@height -
141     \postage@current@stamp@trim@top -
142     \postage@stamp@logo@height
143   }%
144   \setlength{\postage@current@stamp@trim@right}{
145     \postage@page@width -
146     \postage@current@stamp@trim@left -
147     \postage@stamp@logo@width
148   }%
149   \postage@draw@current@stamp@part[%
150     width={1\postage@stamp@barcode@text@width}
151   ]%
152 }

```

`current@stamp@style@compact` Draw the current stamp's compact representation. This will print a scaled-down version of the »Deutsche Post« logo in the upper-right corner of the barcode and trim the big logo and »Internetmarke« URL instead.

```
153 \newcommand{\postage@draw@current@stamp@style@compact}{%
154   \begin{tikzpicture}
155     \node[anchor=north east, inner sep=0] at (0,0)
156     {\postage@draw@current@stamp@barcode};
157     \node[anchor=north east, inner sep=0] at (0,0)
158     {\postage@draw@current@stamp@logo};
159   \end{tikzpicture}%
160 }
```

`current@stamp@style@normal` Draw the current stamp's whole content including the big »Deutsche Post« logo and »Internetmarke« URL, yet trimming whitespace around it.

```
161 \newcommand{\postage@draw@current@stamp@style@normal}{%
162   \postage@draw@current@stamp@content%
163 }
```

`\includestamp` See the usage documentation.

```
164 \newcommand{\includestamp}[2][ ]{%
165   \setkeys{postage}{#1}%
166   \def\postage@current@stamp@file{#2}%
167   \postage@calculate@current@stamp@position%
168   %
169   \ifx\postage@current@stamp@style\postage@stamp@style@compact%
170     \postage@draw@current@stamp@style@compact%
171   \else%
172     \postage@draw@current@stamp@style@normal%
173   \fi%
174 }
```

4 Outlook

In future this library may be extended to other postage service (potentially outside Germany). Then a `service` option could be set up to decide which format to use. Speaking of formats one could also think about implementing »Deutsche Post«'s »Ausdruck 3-spaltig (DIN A4)« format to support more stamp types such as enrolls and/or mail tracking, which at the time of writing this package aren't supported in the »Deutsche Post«'s »Internetmarke« in »Ausdruck 4-spaltig (DIN A4)« format.