

The `tcbpagefootnote` package

Page footnotes from inside `tcolorbox`

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<https://github.com/munepi/tcbpagefootnote>

v1.0 (2026/10/25)

1 Introduction

`tcolorbox` typesets the content of a box like a `minipage`: a `\footnote` inside the box is numbered with the `mpfootnote` counter (a, b, ...) and its text is put at the bottom of the box. This is often what you want for a box that stands apart from the text, but not for a box that is part of the running text, such as a note or a definition in a book: there, the footnotes should be numbered along with those of the body text and put at the bottom of the page.

The `tcbpagefootnote` package adds the `tcolorbox` key `page footnote` for this. The two boxes below differ only in this key.

An ordinary box

A footnote in an ordinary box^a is a footnote of the box.

^aThis footnote is put at the bottom of the box.

A box with page footnote

A footnote in a box with `page footnote`¹ is a footnote of the page, numbered along with the footnotes of the body text.

Supported formats/engines pdf $\LaTeX$, Xe $\LaTeX$, Lua $\LaTeX$ (with or without Lua $\TeX$ -ja), p $\LaTeX$ and up $\LaTeX$ (with dvipdfmx). The package requires `tcolorbox` and loads its `hooks` library.

2 Usage

```
\usepackage{tcbpagefootnote}

\begin{tcolorbox}[title=Note, page footnote]
  Text\footnote{A page footnote.}.
\end{tcolorbox}

\newtcolorbox{note}[1][\colback=blue!5, page footnote, #1]
\tcbset{page footnote} % for every box
```

The key acts on the footnotes in the title, the upper part and the lower part of the box:

- the marks are made with the `footnote` counter and `\thefootnote`, as in the body text;

¹This footnote is put at the bottom of the page.

- the texts are collected while the box is typeset and are put into the ordinary footnote insertion right after the box, so that they go to the bottom of the page where the box is. If the box does not fit on the current page and moves to the next one, its footnotes move with it.

`\footnote[number]`, `\footnotemark` with `\footnotetext`, `\tcbox`, and boxes with `page footnote` inside each other work as usual. An ordinary box inside a box with `page footnote` keeps its own footnotes. With `hyperref`, each footnote mark links to its own footnote text.

3 Errors and warnings

The key `'page footnote'` cannot be used with `'float'`. A floating box (`float`) is not followed by the code that puts the footnotes.

The `'after'` code of this box no longer flushes the page footnotes. The footnotes are put by the `after pre` code of the `hooks` library. Keys that set the whole `after` code (`after`, `after skip`, `nobeforeafter`, ...) remove it when they come after `page footnote`: give them before it, e.g. `[after skip=1pt, page footnote]`.

The `tcolorbox` key `'page footnote'` is already defined. Another package defines a key of the same name; `tcbpagefootnote` does not redefine it.

This box is broken across pages. (**warning**) See below.

4 Limitations

- A `breakable` box that is broken across pages puts the footnote texts of all its parts on the page where the box ends: the content of a breakable box is typeset as a whole before it is split, and footnote insertions do not travel with the split parts. The package issues a warning for such a box when it has footnotes. The footnotes of a breakable box that is not broken are put as usual.
- `page footnote` cannot be used with `float`.
- Vertical writing (`tate`) is out of the scope of this version. With (u)pL^AT_EX and dvipdfmx, `tcolorbox` itself does not work in `tate`, since the dvipdfmx driver of TikZ/PGF does not support it; this is to be handled by a separate package.

5 Tests

`make test` compiles the test files with pdfL^AT_EX, XeL^AT_EX, LuaL^AT_EX, pL^AT_EX and upL^AT_EX (+ dvipdfmx) and checks the log. For every footnote, `test-common.tex` writes the page and the mark of the footnote mark and of the footnote text to the `.aux` file at shipout, together with whether the text is set in the full `\columnwidth` of the page (a page footnote) or in a box; when the `.aux` file is read back at `\end{document}`, it checks that every text is typeset exactly once, with its own mark, on the expected page (TPF-RESULT OK).

Test	What it covers
<code>test-basic.tex</code>	title/upper/lower, nesting, <code>\tcbox</code> , a box moved to the next page
<code>test-hyperref.tex</code>	<code>test-basic.tex</code> with <code>hyperref</code> : no duplicate anchors
<code>test-breakable.tex</code>	broken and unbroken breakable boxes, the warning
<code>test-japanese.tex</code>	Japanese classes (<code>ltjbook</code> , <code>jbook</code> , <code>ujbook</code>)
<code>test-errors.tex</code>	the error messages

6 History

v1.0 (2026/10/25) First public release.

7 License

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