# The graphicxbox Package

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## Contents



1 ⟨*package⟩

## 1 Introduction

This is a short package that provides two new commands `\graphicxbox` and `\fgraphicxbox`, which are companion commands to `\colorbox` and `\fcolorbox` of color.dtx, by D. P. Carlisle. The `\graphicxbox` inserts a graphical image as a background rather than a background color, while `\fgraphcxbox` does the same thing, but also draws a colored frame around the box.

This package requires either graphicx or graphicxsp package (the latter calls the first). The graphicxsp allows you to embed graphic images once and use them many times, this is ideal for this current package. Either of these commands should be loaded before this package. If you are using the web package and want to use graphicxsp, you should load graphicxsp before the web package. I will not use the `\RequirePackage` command to require either of these graphics packages, the reason for this is that graphicxsp contains options the user might want to access and I don't want to make this package unduly complicated by adding options to this package only to pass them to another.

## 2 Example files

We provide three sample files with this distribution.

1. `grfxbox_tst.tex` illustrates the basic features available to all users of dvips, dvipsone, pdflatex, and xelatex.

2. `grfxbox_tst_sp.tex` same as `grfxbox_tst.tex`, but uses `graphicxsp`. The drivers dvips or dvipsone are required, and Adobe Distiller required as the PDF creator.

3. `grfxbox_tst_indians.tex` uses `graphicxsp` again, but illustrates transparency. Distill the file with `Standard_transparency.joboptions` which accompanie the `graphicsp` package.

Though we don't have a `\RequirePackage` for the required graphics package, we will test for their presence and emit a package error.

```
\@ifpackageloaded{graphicxsp}{}
    {%
        \@ifpackageloaded{graphicx}{}
        {%
            \PackageError{graphicxbox}{%
             Neither the graphicx nor graphicxsp packages are loaded.}%
            {Load the graphicx or graphicxsp package before this one.}%
        }%
    }
```

# 3 Definitions of the two main commands

`\graphicxbox` This command provides a background graphic for a box, similar to `\colorbox`. The syntax is

```
\graphicxbox[<Graphicx(SP)options>]{<graphic>}{<box content>}
```

When graphicx is loaded (and not graphicxsp) the syntax, in example form is

```
\graphicxbox{mycoolgraphic}{\Huge Hello World!}
```

The first parameter is optional and is passed to the `\includegraphics` command. Do not use the `scale`, `width` or `height` parameters of `\includegraphics`. This package uses `width` and `height` to set the dimensions of the graphic to fit the box.

When graphicxsp (distiller required) is loaded, the optional parameter is used to specify the name of the embedded graphic to be used, in this case, the second argument `{<graphic>}` is not used. For example,

```
\embedEPS{indianblanket}{IndianBlnkt}
...
...
\graphicxbox[name=indianblanket]{}{\Huge Hello World!}
```

The `indianblanket` graphic can be used and reused many time without increasing the file size significantly. The other advantage of using the graphicxsp package is that it supports transparency. See the demo files that accompany this package.

```
\newcommand{\graphicxbox}[2][]{\graphicx@b@x\relax{#1}{#2}}
```

\fgraphicxbox This command does the same as \graphicxbox, but additionally, adds a colored rule framing the box, similar to what \fcolorbox does. The syntax is

```
\fgraphicxbox[<model>]{<specification>}[<Graphicx(SP)options>]
    {<graphic>}{<box content>}
```

The first two parameters are the same ones used by \fcolorbox, the color specification. The next three parameters are the same as \graphicxbox. The comments made above for the \graphicxbox hold here as well.

Here is an example for the graphicxsp package:

```
\graphicxbox{blue}[name=indianblanket]{}{\Huge Hello World!}
```

As with \colorbox and \fcolorbox, the lengths \fboxsep and \fboxrule. For example, if we set

```
\setlength{\fboxsep}{10pt}
\setlength{\fboxrule}{2pt}
\graphicxbox{blue}[name=indianblanket]{}{\Huge Hello World!}
```

we would make the separation between the content and the frame of the to be 10pt and the rule with to be 2pt.

```
\newcommand{\fgraphicxbox}[2][]{\fgraphicx@box{#1}{#2}}
```

# 4 Internal, supporting commands

\fgraphicx@box continues the flow from \fgraphicxbox. The parameters of \fgraphicx@@box are

```
\fgraphicx@box{model}{color spec}[options for graphicx(sp)]{filename}
```

```
\def\fgraphicx@box#1#2{\@ifnextchar[{\fgraphicx@@box{#1}{#2}}%
    {\fgraphicx@@box{#1}{#2}[]}}
\def\fgraphicx@@box#1#2[#3]#4{%
    \graphicx@b@x{\fboxsep\z@\color#1{#2}\fbox}{#3}{#4}}
```

\graphicx@b@x \graphicx@b@x is the low-level command that does all the work now that the parameters have been set. This code is a modification of \color@b@x from the color.dtx package.

```
\long\def\graphicx@b@x#1#2#3#4{\leavevmode
    \setbox\z@\hbox{\kern\fboxsep{\set@color#4}\kern\fboxsep}%
    \dimen@\ht\z@\advance\dimen@\fboxsep\ht\z@\dimen@
    \dimen@\dp\z@\advance\dimen@\fboxsep\dp\z@\dimen@
    {%\color@block{\wd\z@}{\ht\z@}{\dp\z@}%
%    \dimen@ii\dp\z@\advance\dimen@ii\ht\z@
    \dimen@\dp\z@\advance\dimen@\ht\z@
    \edef\gfxb@totalheight{\the\dimen@}%
    {#1{\lower\dp\z@\rlap{%
        \includegraphics[#2,width=\wd\z@,height=\gfxb@totalheight]{#3}}%
     \box\z@}}%
}
⟨/package⟩
```