

The `opacity_pro` Package

D. P. Story

Email: `dpstory@acrotex.net`

processed December 29, 2007

Contents

1 `{*package}`

This is a short package that provides one command and one environment: `\settransparency` and `settransparency`. They are used to set the opacity and blend of an object. The reader interested in transparency should read Chapter 7 of the *PDF Reference, Sixth Edition* for Version 1.7. The techniques used in this package were derived from the *pdfmark Reference* (Adobe Acrobat 8.0 SDK), pages 38–43.

As the suffix “pro” might suggest, this package is for those who use distiller version 6.0 or greater to produce PDFs. The `opacity_pro` uses distiller with the Adobe PDF Settings set to process the transparency operator. For your convenience, the Adobe PDF Settings file `Standard.transparency.joboptions` is included in the distribution. Place this file wherever distiller looks for the `.joboptions` files.¹

The package doesn’t really require other packages, but normally, it is used with the `color` or the `graphicx` packages. It does require that a `.dvi` to `.ps` converter be used that recognizes the special `\special{ps: ...}`. This includes, of course, `dvips`.

`\settransparency` There is a command and an environment version for setting transparency. Use
`settransparency` the environment when the content contains verbatim text, for example; otherwise, the content is taken in as one of the parameters. The syntax of these two are

```
\settransparency[<BM>]{<ca>}{<CA>}[<other_key_values>]{<contents>}

\begin{settransparency}[<BM>]{<ca>}{<CA>}[<other_key_values>]
  <contents>
\end{settransparency}
```

The parameters are

¹Go to `Settings > Edit Adobe PDF Settings ...` in the Distiller application window, then click the `SaveAs` button. A `Save Adobe PDF Settings As` dialog box opens, and you can then see where Distiller likes to save its `.joboptions` file. Copy the provided `.joboptions` to the folder and restart Distiller, the `Standard.transparency` should now be visible in the drop down `Default Settings` list.

<BM>: Current blend mode. Names recognized are Normal, Multiply, Screen, Overlay, Darken, Lighten, ColorDodge, ColorBurn, HardLight, SoftLight, Difference, Exclusion, Hue, Color, Saturation and Luminosity. See the accompanying file `blend-modes.tex` for a description of each.

ca: Current alpha constant, specifying the constant shape or constant opacity value to be used for *non-stroking operations*. A number between 0 and 1, inclusive. Default is 1.0.

CA: Current stroking alpha constant, specifying the constant shape or constant opacity value to be used for *stroking operations*. A number between 0 and 1, inclusive. Default is 1.0.

Other key-value pairs can be inserted using the optional fourth parameter (see page 38 of the *pdfmark Reference, Version 8.0*, for a listing of these other key-value pairs). In the environment case, the last parameter is optional, so \TeX will be looking for a left brace ‘[’, if the contents of the environment begin with a command, that command will get expanded while \TeX looks for a left brace; if this is a problem, simply put an empty optional argument ‘[]’ to make \TeX happy.

The target object, <contents>,² is either the fifth argument, or the contents of the environment.

Below you will find the code for this package.

```

2 \def\settransparency@env{settransparency}
3 \newenvironment{settransparency}[3][Normal]{%
4   \ifnextchar[{\settransparencyii{#1}{#2}{#3}}%
5     {\settransparencyii{#1}{#2}{#3}[]}%
6 }{\special{ps:grestore}}
7 \long\def\settransparencyii#1#2#3[#4]{%
8   \ifx@currenvir\settransparency@env
9     \def\op@next{\settransparencyii@env{#1}{#2}{#3}{#4}}\else
10    \def\op@next{\settransparencyii{#1}{#2}{#3}{#4}}\fi\op@next
11 }
12 \def\settransparencyii#1#2#3#4#5{\op@ck@defs{#2}{#3}%
13   \special{ps:gsave [\op@ca\op@CA/BM/#1#4/SetTransparency pdfmark]%
14   #5\special{ps:grestore}%
15 }
16 \def\settransparencyii@env#1#2#3#4{\op@ck@defs{#2}{#3}%
17   \special{ps:gsave [\op@ca\op@CA/BM/#1#4/SetTransparency pdfmark]%
18 }
19 \def\op@ck@defs#1#2{%
20   \def\op@arg{#1}\ifx\op@arg\@empty\let\op@ca\@empty\else
21   \def\op@ca{/ca #1}\fi\def\op@arg{#2}\ifx\op@arg\@empty
22   \let\op@CA\@empty\else\def\op@CA{/CA #2}\fi
23 }
24 </package>

```

²These can be text, pictures, color boxes, and so on.