Overprint Mode

Technical Note #5145

PostScript Version 3015.102

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Date/Rev #	Comments
31 Oct 01	3015.102

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1 Overview

Prepress and page layout applications specify overprinting by using the following PostScript code:

```
true setoverprint
1 0 1 1 setcmykclolor
20 20 100 80 rectfill
```

When host applications separate this code, it results in the marking of the Cyan, Yellow, and Black planes, and the Magenta plane is not marked. When the overprint parameter of the graphics state is true, the 0 components of CYMK colors do not mark. (This behavior is referred to as nonzero overprint.) However, when the PostScript interpreter separates this same code, the Magenta plane is knocked out (that is, the plane is marked with the erase color). Thus, overprint true has the same effect as overprint false when marking with CMYK on CMYK planes.

Because PostScript does not support nonzero overprinting, products must resort to one of two strategies to obtain the desired behavior. Overprinted CMYK objects are replaced to omit their 0 components by one of the following methods:

- Marking multiple times using the equivalent Separation color space for each nonzero component.
- Setting a DeviceN color space for each different color.

Either method for obtaining nonzero overprint results in complex PostScript code that is inefficient to produce and execute compared to marking with CMYK.

OEMs in the digital press, imagesetter, and proofing markets override Postscript color and marking operators to apply their compatibility strategies to nonzero overprint. However, this is difficult to implement reliably and has resulted in complaints about RIPping performance.

To address the need for nonzero overprint capabilities in PostScript, PostScript version 3015.102 makes nonzero overprinting behavior available. This can be enabled through the new **setoverprintmode** graphics state operator. (See Section 2.)

2 Overprint Mode Operators

This sections describes the **setoverprintmode** and **currentoverprintmode** operators introduced in PostScript 3015.102

2.1 setoverprintmode

bool **setoverprintmode -**

sets the overprint mode parameter in the graphics state to bool. This parameter has no effect when overprint is false.

The overprint mode affects the interpretation of a tint value of 0.0 for a color component in the DeviceCMYK color space when rendered on a native DeviceCMYK device.

When overprintmode is false and the overprint parameter is true, overprint has the same behavior as describe in PostScript *Language Reference, Third Edition* for **setoverprint**. When overprint is true, each source color component value replaces the value previously painted for the corresponding device colorant, no matter what the new value is.

When overprintmode and overprint are both true, a tint value of 0.0 for a source color component leaves the corresponding component of the previously painted color unchanged. This behavior is called “nonzero overprint.”

Nonzero overprint mode applies only to painting operations that use the current color in the graphics state when the current color space is Device CMYK. It does not apply to the painting of images or to any colors that are the result of a computation, such as those in a shading pattern or those converted from some other color space.

Like **setoverprint**, you should not use **setoverprintmode** to achieve specific color marking effects in a program that is intended to be device-independent.

Errors: **stackoverflow**, **typecheck**

See also: **currentoverprintmode**, **setoverprint**

2.2 currentoverprintmode

- currentoverprintmode bool

returns the current value of the **overprintmode** parameter in the graphics state.

Errors: **stackoverflow**

See also: **setoverprintmode**