

Transparency in Adobe Applications: A Print Production Guide

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PRODUCTS COVERED IN THIS GUIDE

This guide covers the following professional publishing products:

- Adobe Illustrator® CS3
- Adobe InDesign® CS3
- Adobe Photoshop® CS3
- Adobe Acrobat® 8.0 Professional
- Adobe Creative Suite
- Adobe Acrobat Distiller®
- Adobe Reader®
- OpenType™
- Adobe Extreme® 3 (Extreme 3 is a high-end printing component integrated into systems sold and supported by Adobe original equipment manufacturers.)
- Adobe PostScript® 3™ RIPs with direct PDF printing support (release 3015+) [Level 3 RIPs are licensed by Adobe and integrated into systems sold and supported by Adobe OEMs.]

WHO SHOULD READ THIS GUIDE

Print service providers, design professionals, customer support specialists, and OEMs who want to know more about transparency in the print production process—how to reproduce transparency accurately while minimizing processing and undesired results—should read this.

Adobe® Creative Suite® 3 has the tools print service providers need to get consistent, high-quality output from files containing transparency created in Adobe® professional publishing products. Getting the correct output from designs with transparency while minimizing problems during processing (called flattening) is the goal of quality print output.

This guide covers how print service providers can output transparency accurately while minimizing processing and undesired results. For information on designing with transparency and software-specific controls, see “A Designer’s Guide to Transparency for Print Output” at www.adobe.com/designcenter/ and www.adobe.com/studio/print/, and the Help in the Adobe Creative Suite 3 components.

It’s important to keep certain principles in mind when designing with transparency—and when processing it before printing—for the best results and the most efficient processing and workflow.

Here’s what print service providers—and design professionals, customer support specialists, and OEMs who want to know more about transparency in the print production process—need to know about reproducing transparency accurately while minimizing processing and undesired results. Topics cover:

- How transparency is flattened when exporting or printing documents
- How flattening and the use of transparency in files affects your production workflow.
- How to use controls in Adobe Illustrator® CS3, InDesign® CS3, and Adobe Acrobat® 8.0 Professional to manage and flatten transparency.
- How the Transparency Flattener interacts with color elements (spot color, process colors, and color management) in jobs containing transparency.
- Best practices for working with transparency, including detecting live transparency and using the Flattener, to get the desired print results.
- Troubleshooting information.
- A glossary of common transparency and flattening terms.

Note: Customers of Creative Suite 3 and Adobe Acrobat 8 Professional will soon be able to take advantage of print workflow systems and RIPs powered by the Adobe Print Engine. This technology allows PDF documents and jobs to remain unconverted and independent of printing devices throughout a print workflow. The technology, for example, eliminates the need to flatten transparent artwork and effects to ensure accurate and consistent reproduction of complex artwork, in all stages of the production process—print preview, proof, and print. For the first time, prepress and print production tasks now can be done using the same technology in Adobe applications—such as PDF rendering libraries and color management systems. Licensed to Adobe print OEM partners and not available off-the-shelf, products based on the Adobe PDF Print Engine will be available beginning mid-2007. For more information on the Adobe PDF Print Engine, visit www.adobe.com/products/pdfprintengine/.

Transparency in Adobe Applications

Transparency simulates how objects in artwork show-through when they overlap. Examples of transparency include drop shadows, blur effects, glow effects, and others.

Adobe Photoshop® CS3, Adobe Illustrator® CS3, Adobe InDesign® CS3, and Acrobat 8 Professional offer built-in transparency features and controls for print and web publishing—a far cry from the early days of desktop publishing when only opaque objects could be created, or the early days of transparency-creation that required “flattening” Photoshop layers and transparency, exporting files to non-native formats (EPS and TIFF) that PostScript® printers could output, or costly manual prepress work.

New in Illustrator CS3, creating a new print document automatically assigns to the document a high raster resolution of 300 ppi and the CMYK color mode.

New in InDesign CS3, you can create effects that generate transparency, and set their blending modes and opacity. To create effects, use either the Object > Effects menu or the Effects panel (Window > Effects to display the panel, previously called the Transparency panel).

Newer technology has minimized the problems related to printing and handling of transparency at print time—such as undesired color conversions of color and type, rasterization of elements, artifacts, slow print and processing time—not to mention time and materials wasted in troubleshooting, proofing, and reprinting in the production process.

The Adobe Print Engine—enabling technology available from third-party vendors—is based on the PDF/X-4 standard, which supports transparent artwork and effects, as well as layers. When creating PDF files for print production—especially if the RIP or workflow system is based on the Adobe Print Engine—you should choose PDF/X-4 as your file format for best results.

In addition, PostScript Level 3 raster image processors (RIPs), with built in support for the PDF 1.4 specification, can print transparency without requiring additional changes. But the issue of handling transparency at print time remains for PostScript Level 2 and older RIPs, which don’t support transparency and require adjusting transparent objects to be able to print them. These older devices can only simulate transparent effects by converting (flattening) them to opaque objects.

To make the most of Adobe publishing software transparency features, you may need to alter your current workflow. You can avoid most output problems by reviewing this guide and implementing its recommendations.

Transparency’s prepress challenges

Standard practice in high-end prepress environments is the need to handle transparency and transparency-based effects. Illustrator, InDesign, and Acrobat natively offer transparency features and controls for print publishing. (The raster-based Photoshop application already has its effects in pixel form that are easily digested by printer RIPs, and so its transparency controls are not covered in-depth here.)

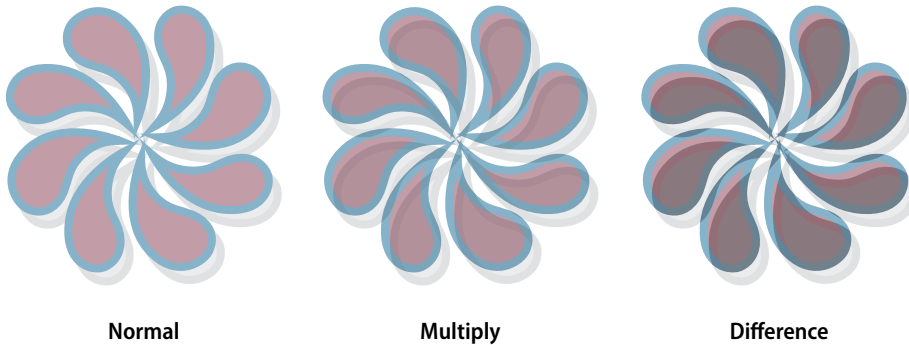
The challenge with transparency is reproducing transparent effects in printed output or in exported file formats that do not support live transparency. To reproduce these effects, transparent objects and those that interact with them must be flattened before printing.

Creating transparency

The Adobe transparency model lets graphic designers apply transparency and transparency-based effects to all objects in a document—including text, vectors, gradients, and imported graphics. In Illustrator CS2 or CS3 and InDesign CS2 or CS3, you can apply transparency effects directly to any objects in the file (whereas in the past, you may have used Photoshop software to add drop shadows and vignettes to images). These effects remain as *live transparency* so that when type is edited, for example, the applied drop shadow changes with it; it's not necessary to return to Photoshop to make simple changes or to manage the results as a separate raster file.

Adobe publishing software applies transparency in a number of different ways:

- In Illustrator or InDesign, you can apply transparency directly to an object by setting its opacity to something other than 100% using the Transparency panel.
- You can apply transparency to objects using blending modes other than Normal applied to one or more overlapping objects.



Blending modes: Three Illustrator images differ only in blending modes: normal, multiply, and difference.

- You can add transparency in less obvious ways—as a side effect of using live effects or styles and brushes that contain live transparency; or by incorporating previously created content that contains live transparency, either by directly importing it or via the Clipboard.

Live compared to flattened transparency

Live transparency can be edited and can interact with underlying objects; flattened transparency cannot be modified using the source application nor any application into which the file is imported. Instead, the transparent objects (or those that interact with them) must be edited in an unflattened version of the file—typically in the source application.

All transparency must be flattened before printing and when exporting in non-native formats (PostScript®, EPS, DCS, Adobe PDF 1.3, GIF, JPEG, BMP, and TIFF images created prior to Photoshop 6.0 and on generating a PostScript file (including all PDF files created by Acrobat Distiller®).

At its simplest, the process of flattening converts all of the overlapping and interacting elements in a group of transparent objects into a collection of opaque elements that appear the same as the original. Flattening cuts apart transparent art to represent overlapping areas as discrete pieces that are either vector objects or rasterized areas. As artwork becomes more complex (mixing images, vectors, type, spot colors, overprinting, and so on), so does the flattening and its results. See the “About the flattening process” on page 6 for more information.

Flattening Basics

Flattening transparency accurately reproduces—by using opaque objects—the visual effect of transparency on printed output or in exported file formats that don’t support live transparency.

The Transparency Flattener (*Flattener*) built into Adobe Illustrator, Adobe InDesign and Adobe Acrobat 8 Professional performs the conversion, according to how you’ve set it up based on the output requirements of the job. The Flattener works, where necessary, by breaking up transparent objects into smaller nontransparent objects. The technology uses various methods: breaking up parts of the artwork that overlap transparent areas, into smaller opaque regions to simulated the transparent effects; clipping overlapping regions of transparency into smaller groups; or simply rasterizing artwork into a *bitmap*.

Transparency in Adobe publishing applications is referred to as either live (editable, interactive with underlying objects, or both) or flattened. To keep your workflow as flexible as possible, keep transparency live as long as possible until the final output (up to and including flattening in the RIP). This lets you take advantage of transparency’s device independence (as vector art rather than raster images with fixed resolution); how easily it can be edited; and the ability to make last-minute production decisions without worrying about settings used for previously flattened items.

When planning your production workflow, you can make wise decisions about flattening transparency if you’re familiar with the process and the file formats that can contain live transparency.

Live transparency

The transparency attributes of objects created in Adobe publishing applications stay live and fully editable while in their native applications. That same transparency remains live, but not editable, when placed or imported into non-native applications that support the native file format (such as PDF 1.4, 1.5, 1.6, and 1.7).

Live and editable transparency

The following file formats can contain live transparency that interacts with objects beneath them, allowing those objects to show through. For best results, use the latest version of the software:

- AI: Adobe Illustrator 9, 10, CS, CS2, and CS3.
- INDD: Adobe InDesign 2, CS, CS2, and CS3.
- PSD: Adobe Photoshop 6, 7, CS, CS2, and CS3.
- PDF: Adobe PDF 1.4, 1.5, 1.6, and 1.7 (Acrobat 5, 6, 7, and 8).
- TIFF: Version 6 (TIFF files saved from Photoshop 6 or later).

Transparency kept live until printing

The following file types let you keep transparency live (but not necessarily editable) until print time. For best results, use the latest version of the software:

- AI files from Illustrator 10, CS, CS2, and CS3.
- PDF 1.4, 1.5, 1.6, and 1.7 files created directly in Illustrator 9, 10, CS, CS2, or CS3; InDesign 2, CS, CS2, or CS3; or saved by Acrobat 5, 6, 7, or 8 Professional.

Note: *Because Acrobat Distiller software creates PostScript files, which do not support live transparency, PDF files created by Distiller won’t contain live transparency.*

These file types let you keep transparency live until print time, as long as you save the file with the Preserve Illustrator Editing Capabilities option chosen, and open the file in Illustrator:

- EPS from Illustrator 9, 10, CS, CS2, and CS3.
- PDF 1.3 from Illustrator 9, 10, CS, CS2, and CS3.

PDF versions and transparency

When saving a file as PDF from an Adobe Creative Suite component, PDF 1.3 is listed as Acrobat 4; PDF 1.4 as Acrobat 5; PDF 1.5 as Acrobat 6; PDF 1.6 as Acrobat 7, and PDF 1.7 as Acrobat 8.

Because Distiller processes PostScript to create a PDF, and Postscript cannot contain live transparency, any PDF produced by Adobe Acrobat Distiller—even PDF 1.4 or 1.5—won’t contain live transparency. All transparency is flattened in generating PostScript.

Editable transparency in Illustrator files

An EPS or PDF file created in Illustrator 9 or later may have been saved with the Preserve Illustrator Editing Capabilities option selected (in the EPS or Adobe PDF Format Options dialog box). In the case of EPS and PDF 1.3, the file will contain flattened transparency; however, you can access the native Illustrator data by opening the file in an appropriate version of Illustrator. Then you can edit the live transparency and resave it with the appropriate flattener settings.

Flattened transparency

Transparency is flattened when a file containing live transparency is converted into a format that doesn't support live transparency, or the file is printed. Conversion is the job of the Flattener. During the flattening process, the Flattener replaces transparent objects with objects that are visually equivalent to the transparent originals, but contain no transparency. These new opaque objects are often referred to as *flattened transparency*. Flattened transparency does not contain any live transparent elements and, therefore, cannot be manipulated. Be sure to save a copy of the unflattened artwork for future editing if you think you may need to change artwork after flattening has occurred.

The following common file types do not support live transparency (the Flattener must flatten transparent objects prior to printing or exporting): PostScript, EPS, DCS, PDF 1.3 and earlier, PDF/X, GIF, JPEG, BMP, and versions of TIFF that do not conform to the TIFF 6.0 specification (for example, TIFF files created with a version of Photoshop software prior to version 6.0).

Determining whether an object will be flattened

An object that has a transparency effect applied to it is called a *source of transparency*. An object or placed file that appears beneath a source of transparency (regardless of the layer it is on) *interacts with transparency*. The Transparency Flattener processes both objects that are a source of transparency and those that interact with transparency, possibly changing their composition in the output.

An object is a source of transparency if any of the following applies:

- It has an opacity of less than 100%.
- It has any blending mode other than Normal.
- It has an opacity mask (Illustrator).
- It has a drop shadow or feather.
- It has a inner glow or outer glow effect (Illustrator).
- Its fill or stroke has a style, brush, pattern, or filter effect that has any of the previous properties.
- It is a placed Photoshop file (native, PDF, or TIFF) with a transparent background.
- It is a placed Illustrator file (native or PDF) that contains one or more objects with any of the previous properties.

In general, an object interacts with transparency if:

- It is a source of transparency.
- It is overlapped by a source of transparency.
- It is very close to (usually within 1 point) a source of transparency and beneath it in *stacking order* (including objects on other layers).

The best way to determine if an object interacts with transparency is to use the Flattener Preview in Illustrator, InDesign, or Acrobat 8 Professional (see “Using the Flattener Preview to detect transparency” on page 30). Without using the Flattener Preview, it's difficult to determine whether an object interacts with transparency.

Flattener Preview panel

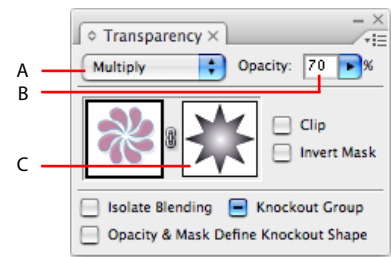
Use the Flattener Preview panel in Illustrator CS3, InDesign CS3, and Acrobat 8 Professional to highlight objects that are a source of transparency or that will be affected by the flattening process. (See “Using the Flattener Preview to detect transparency” in the “Best Practices” section for more information.)

Previewing overprinting and flattening

Acrobat 7 and later lets you inspect overprinting objects with the Overprint Preview function.

Reader 7 and 8 include Overprint Preview

Debuted in Reader 7, Overprint Preview displays overprints contained in PDF files. Reader 7 and 8 users can preview overprinting objects in a PDF file, by selecting the Overprint Preview preference (Edit > Preferences (Windows) or Reader > Preferences (Mac OS)).



Illustrator CS3 Transparency panel

A. Blending mode B. Opacity C. Opacity Mask



Glow effects (left to right) No glow, inner glow, outer glow (right)

Previewing overprinting

When flattening transparency that interacts with spot colors, the Flattener may use overprint commands in the resulting file to create transparent effects using opaque objects. To display and print the transparency correctly, you must use software (a RIP or previewing application) that supports PostScript overprinting. Without overprinting support, objects set to overprint will instead knock-out the objects beneath them.

In Illustrator CS3 and InDesign CS3, choose View > Overprint Preview. In Acrobat 8 Professional, choose Advanced > Print Production > Overprint Preview.

Note: You can also set objects to overprint in Illustrator and InDesign, but that overprinting is not a form of transparency and does not need to be flattened. To see how overprinting affects the objects, be sure to turn on Overprint Preview.



Overprint Preview in Acrobat 8 Professional with black and spot-color blue. Left: Overprint Preview Off; drop shadow overprints on top of a spot color. Right: Overprint Preview On; how the image appears on output devices that support overprinting.

About the flattening process

The more complex a design (mixing images, vectors, type, spot colors, overprinting, and so on), the more complex is flattening and its results. To achieve the visual effect of transparency with the use of opaque objects, the flattening technology examines the interactions at every point of the transparency and does several things to the objects involved:

- The Flattener cuts the original transparent objects apart and replaces overlapping transparent regions with a set of discrete, abutting objects called *atomic regions*, that are either vector objects or rasterized areas. Each atomic region stands on its own and does not rely on underlying or overlapping objects for its final appearance.



The flattening process: Transparent objects cut apart to represent overlapping areas as discrete pieces, either vector objects (shown here) or rasterized areas. Live transparency (left) is split into flattened atomic regions (middle image in exploded view). Final output (right) simulates the original, but uses opaque elements.

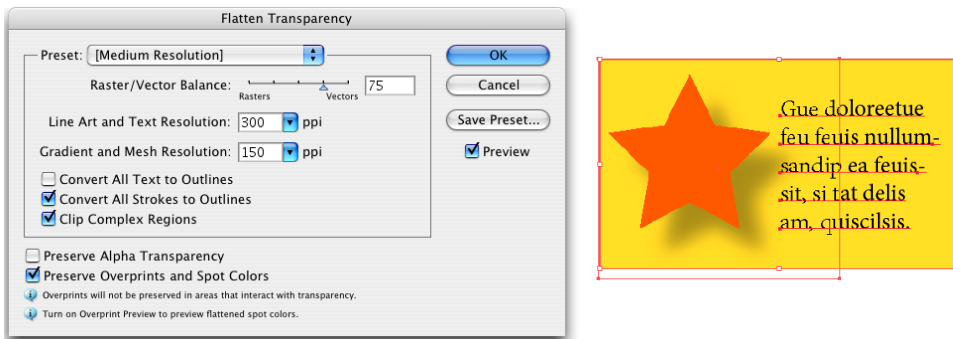
- When using the built-in High Resolution Flattener Preset, the Flattener retains the integrity of original transparent objects whenever possible (for example, type remains type and vectors remain vectors). Depending on the complexity of a design and the flattener settings used, it may convert type or strokes to outlines or expand patterns. (See “Controlling the Flattener” on page 8 for information about Flattener Presets.)
- If an object being processed by the Flattener has either its fill or stroke set to overprint, the Flattener may process the overprinting. If the Flattener processes overprinting, the flattened objects it creates won’t have any overprinted fills or strokes. (See “Flattener options” on page 11 for more information.)

Flattening in Illustrator, InDesign, or Acrobat 8 Professional

You can flatten any of the live transparency contained in the file formats listed in “Live transparency” on page 4 using Illustrator CS3, InDesign CS3, or Acrobat 8 Professional: either directly open the file or place it as a graphic, and then print or export it. In addition, Illustrator CS3 lets you flatten individual objects as you edit the file.

To flatten individual objects in Illustrator CS3:

- 1 Select the objects you want to flatten.
- 2 Choose Object > Flatten Transparency.
- 3 Select Preview option to view what will happen during flattening and what the Flattener will do at various settings.
- 4 Click OK to flatten the selected objects. Once flattened, the transparency effects are no longer live and their appearance is not easily modified. (See “Object Flattener dialog box (Object > Flatten Transparency)” on page 37.)

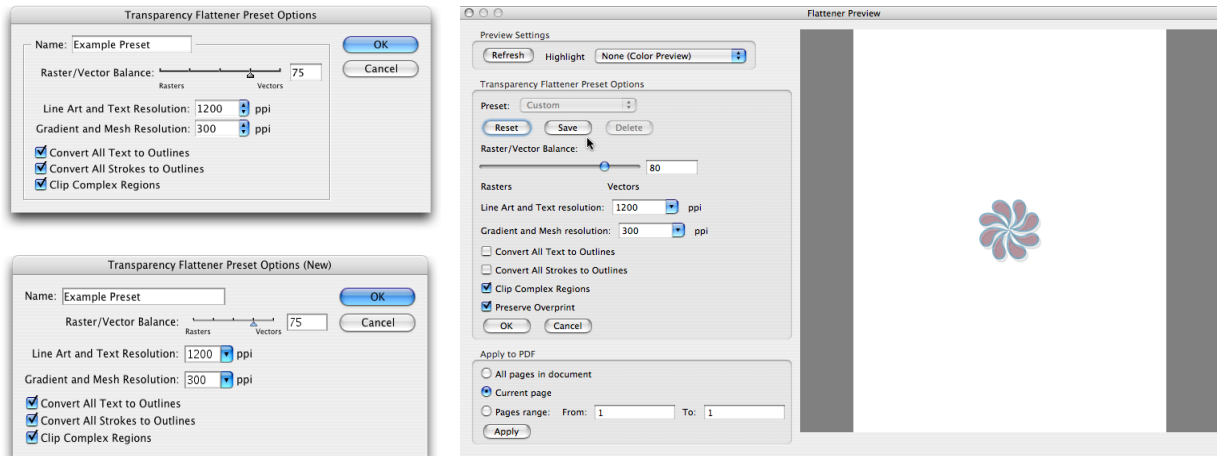


The Illustrator CS3 Flatten Transparency dialog box with a preview of a flattened object.

Controlling the Flattener

All Adobe publishing applications use similar Flattener technology, with slightly different controls. To display the Transparency Flattener Settings dialog box, choose Edit > Transparency Flattener Presets (InDesign CS3 and Illustrator CS3) or Advanced > Print Production > Flattener Presets (Acrobat 8 Professional).

This topic introduces the settings used to control the Flattener and how to use them. For a complete discussion of Flattener settings, see “Best Practices” on page 28.



Transparency Flattener settings dialog boxes: InDesign CS3 (top left), Illustrator CS3 (bottom left), and Acrobat 8 Professional (right).

Flattener controls

During processing, flattening subdivides a design into regions and examines each region for any transparent objects. For regions that contain transparency, the Flattener assesses if the objects involved can be kept in their original form (for example, vectors as vectors or type as type), if they can be converted to a related form (for example, type to outlines), or if the entire region must be rasterized because of its complexity. Flattener settings control the following:

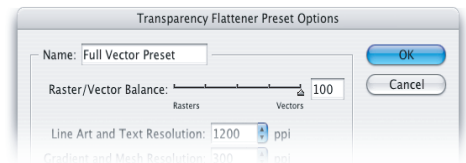
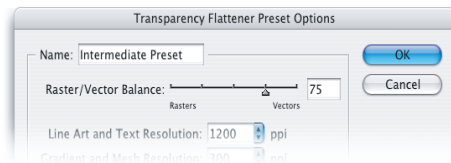
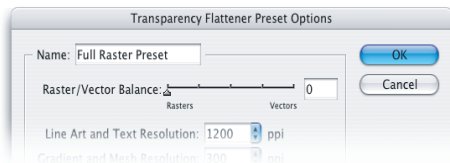
- Whether objects are rasterized or remain as vector form.
- If objects are rasterized, their resolution (in pixels per inch).
- How type and strokes are processed, and whether they're converted to outlines.
- Whether complex regions are clipped using clipping paths around parts of the transparent design.
- Whether alpha transparency in Illustrator CS3 files are preserved for use in SVG and SWF graphics.
- How overprinting and spot colors are handled.

Setting rasterization

The Raster/Vector Balance setting determines how hard the Flattener works to keep objects in their vector form in the flattened output. This setting can also affect flattening performance. For complex documents, flattening in vector form requires more time and memory than rasterization.

To access the Raster/Vector Balance control:

- In InDesign CS3, choose Edit > Transparency Flattener Presets. Select a preset and click New or Edit.
- In Illustrator CS3, choose File > Document Setup, and then choose Transparency from the pop-up menu. Select a preset and click Custom.
- In Acrobat 8 Professional, choose Advanced > Print Production > Flattener Preview.



Raster/Vector Balance settings (left to right): Left-most setting, Intermediate Setting, Right-most setting

The Raster/Vector Balance setting works as follows:

- **At the left-most setting (0)**, labeled Raster, the Flattener rasterizes all of the objects on any page that includes at least one transparent object. All objects on the page are rasterized, whether or not they contain or interact with transparency.
- **Intermediate settings (1-99)** affect the degree to which the Flattener rasterizes (or doesn't) areas of transparency as determined by the number of paths, the number of objects, the amount of object overlap, and the type of objects in that area. The document's design complexity the mainly influences what happens during flattening. In many simple uses of transparency, the results may be no different at any 0 (zero) setting (that is, no rasterization occurs).
- **At the right-most setting (100)**, labeled Vector, the Flattener tries to keep all of the objects in their original, vector form. At the full vector (100) setting, the Flattener nearly always produces the best looking output. Due to the complexity of keeping designs in vector form, this is the slowest Raster/Vector setting. As you create your workflows, start with this setting and move the slider towards Raster if time becomes an issue. Even at this setting, some rasterization may be unavoidable. For example, the flattened objects required to represent a transparent vector shape filled with a gradient mesh may be rasterized, but the Flattener creates a clipping path to define their edges.

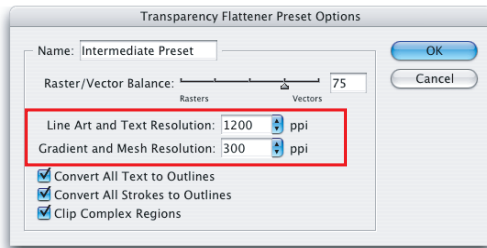
To best determine what the Flattener will do, use the Flattener Preview in Illustrator CS3, InDesign CS3, or Acrobat 8 Professional. Choose a preview option in the Flattener Preview panel to quickly determine the areas that will be affected by the flattening process. (See "Flattener settings and Flattener Preview" on page 15.)

For final high-resolution output, always select the highest Raster/Vector setting (vector) unless you want to reduce the time or memory required to flatten a particularly complex transparent design. Be sure to lower the Raster/Vector no more than necessary to avoid an unacceptable degree of rasterization.

Flattener resolution settings

The resolution settings control how the Flattener rasterizes transparent objects (in pixels per inch) that won't be reproduced as vectors. InDesign CS3, Illustrator CS3, and Acrobat 8 Professional have these settings.

Two settings are common to all Adobe publishing software:

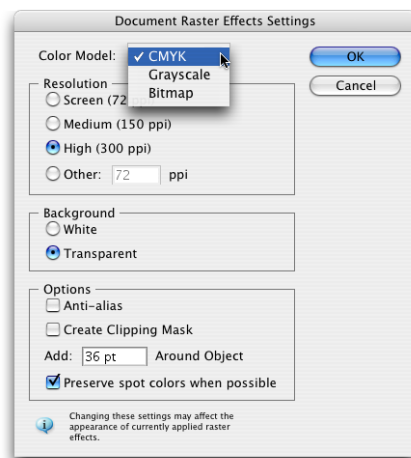


Resolution settings in the Transparency Flattener Preset Options dialog box (InDesign CS3)

- **Line Art and Text Resolution:** This setting determines the resolution applied to vector art and text that need to be rasterized by the Flattener during the flattening process. Set the Line Art and Text Resolution setting at the minimum resolution needed to represent fine elements, such as small fonts or thin strokes, on your output device. Typically, on devices up to 600 dpi, just use the resolution of the device. For high resolution devices (such as imagesetters and platesetters), you may find that using precisely half of the device's resolution rather than the full resolution is sufficient; using this lower resolution will decrease the flattening times and reduce file sizes as compared to using the full resolution. For example, when printing to a 2540 dpi output device, using a 1270 ppi resolution for line art may produce acceptable results.
- **Gradient and Mesh Resolution:** This setting determines the resolution applied to any meshes and gradients that are involved in transparency. In addition, InDesign CS3 applies this resolution to all InDesign drop shadows and feathered edges. This setting controls the resolution of all meshes and gradients printed to RIPs that don't support the PostScript 3 "Smooth Shading" feature. The Flattener will ignore this setting if mesh- or gradient-filled objects aren't involved in transparency and are printed to a PostScript 3 RIP.

One setting is unique to Illustrator:

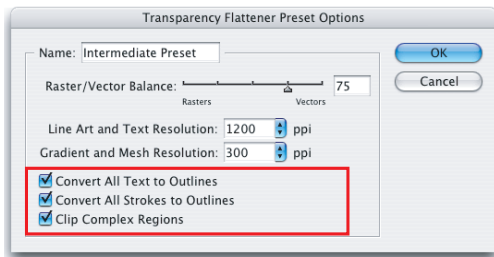
- **Document Raster Effects Settings Resolution (Illustrator 10, CS, CS2, and CS3):** This setting determines the resolution applied to all Illustrator raster effects, including drop shadows, vignettes, and feathered edges. To select this option, choose Effect > Document Raster Effects Settings.



Illustrator CS3 Document Raster Effects Settings dialog box

Flattener options

Flattener options provide important controls that may improve the final appearance of transparent objects after flattening. Available in InDesign CS3, Illustrator CS3, and Acrobat 8 Professional, these settings control how the Flattener processes text, strokes, and whether it should clip complex regions of rasterized transparency with a clipping path.



Conversion option settings in the InDesign CS3 Transparency Flattener Preset Options dialog box

Convert All Text to Outlines

This setting controls how type is processed, and causes the Flattener to convert all type to outlines (whether the type interacts with transparency or not). In some cases, this option eliminates flattening artifacts that are apparent on-screen and when printing to lower resolution output devices. For example, with this option turned off, some type may be converted to outlines, while other type remains unaffected. On low resolution output devices, the outlined type may appear heavier than the unaffected type. With this setting enabled, all type will print with the same weight.

Convert All Strokes to Outlines

This setting controls the processing of strokes and causes the Flattener to convert all strokes to outlines—whether they interact with transparency or not. In some cases, this option eliminates flattening artifacts that are apparent on-screen and when printed to lower resolution output devices.

Clip Complex Regions

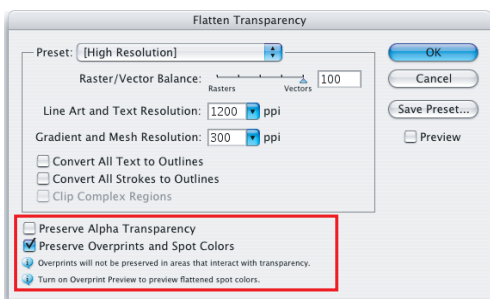
This setting controls the Flattener's analysis of complexity regions (discussed later in this section). When selected, this option creates clipping paths around these portions of a transparent design.

Preserve Alpha Transparency (Illustrator CS3)

The Preserve Alpha Transparency option is available only when using the Object > Flatten Transparency in Illustrator CS3. The concept of alpha transparency takes into account only the attribute of opacity; it does not include blending modes. After you've flattened the transparency with this option chosen, alpha transparency remains and the resulting artwork is suited for Scalable Vector Graphics (SVG) and Macromedia Flash File Format (SWF) web file formats. All objects with blend modes other than Normal are flattened and their appearances are preserved. In general, do not use this setting in the context of print workflows.

Preserve Overprints and Spot Colors

Only in Illustrator CS3, this setting lets you flatten individual or groups of objects (choose Object > Flatten Transparency). The Preserve Overprints and Spot Colors setting produces the same effect as using Preserve Overprints in the Advanced pane of the Print dialog box.



Transparency flattening settings unique to Illustrator CS3

Flattener presets

Presets make it easy to ensure consistent flattening results throughout the workflow and when printing or exporting documents. Transparency flattener presets let you control the Flattener's settings. You can use one of the three built-in presets or create your own custom presets. You can save, export, and distribute custom presets to other computers in your organization and, if necessary, to your customers.

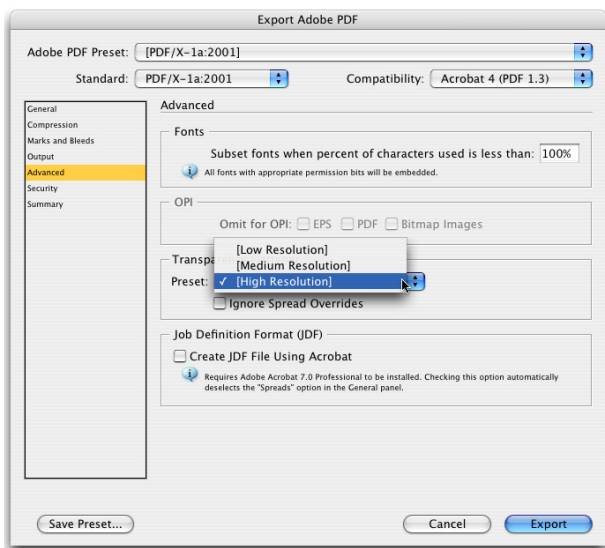
InDesign CS3, Illustrator CS3, and Acrobat 8 Professional all include similar transparency flattener presets. The flattener presets apply to their respective applications and are not interchangeable.

Selecting flattener presets

The process of selecting flattener presets in InDesign CS3, Illustrator CS3, and Acrobat 8 Professional is similar. You can apply a Flattener preset to a document by using the Print, Export, and in Illustrator CS3, Save As dialog boxes. A menu in the dialog boxes lets you select the desired preset; selecting a preset automatically enters all the settings in the dialog box.

To choose a flattener preset in InDesign CS3 or Illustrator CS3:

- 1 Choose File > Print or File > Export, and then click Advanced in the Print or Export dialog box.



InDesign CS3 Export Adobe PDF dialog box

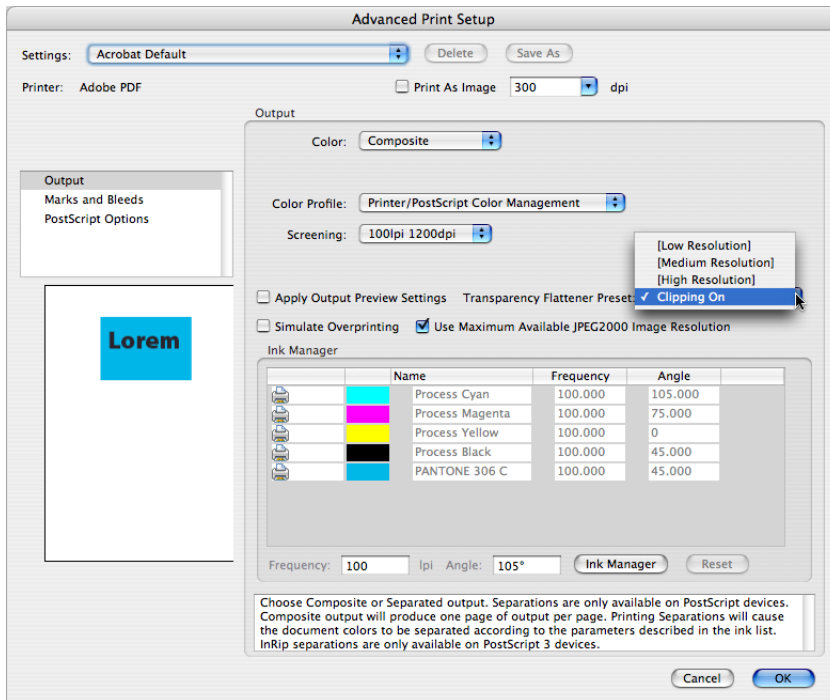
- 2 Choose a preset from the pop-up menu.

Note that in InDesign CS3, you can temporarily turn off any Spread Flattening override options applied in the Pages panel. (See “Overriding spread flattening” on page 42.)

To choose a flattener preset in Acrobat 8 Professional:

1 Do one of the following:

- Choose File > Save As, choose the PostScript or EPS file format, and then click Settings.
- Choose File > Print, click Advanced.
- Click Output in the left pane. From the pop-up menu, choose a transparency flattener preset installed with Acrobat or one that you have customized, and click OK. Then click Print.



Advanced Print Setup in Acrobat 8 Professional

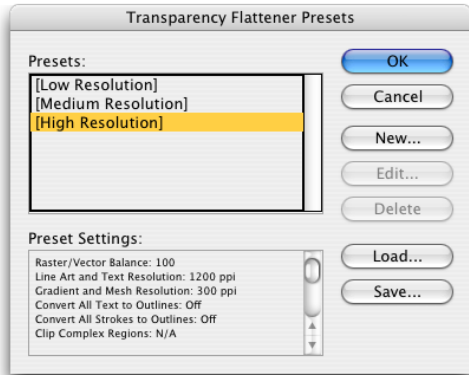
Customizing flattener presets

In InDesign and Illustrator, you use the Transparency Flattener Presets dialog box (Edit > Transparency Flattener Presets) to select defined Flattener presets and customize them.

In Acrobat 8 Professional, you can customize and save presets using the Advanced > Print Production > Flattener Preview dialog box.

To create a custom flattener preset in InDesign CS3 and Illustrator CS3:

- 1 Choose Edit > Transparency Flattener Presets to display the Transparency Flattener Presets dialog box.

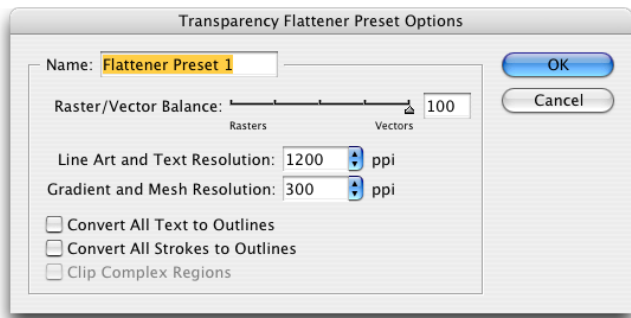


Transparency Flattener Presets dialog box (InDesign CS3)

- 2 Choose from the following options:

- To create a new preset based on the settings of an existing one, select a preset in the upper left pane and click New. You cannot modify the predefined presets, but you can base custom presets on them. Adjust the settings as desired.
- To modify an existing preset, select the preset in the upper left pane, and click Edit. Adjust the settings as desired.

The Transparency Flattener Preset Options dialog box appears, where you can define and edit Flattener styles for use when printing or exporting.



The Transparency Flattener Preset Options dialog box (InDesign CS3)

This dialog box lets you adjust the Raster/Vector Balance control, Flattener options, Line Art and Text setting, Gradient and Mesh Resolution setting, and lets you define custom Flattener presets. New styles use the settings of the currently selected style.

- 3 To load a Flattener preset created by others, click Load (InDesign CS3) or Import (Illustrator CS3).
- 4 To save a preset for distribution to others, click Save (InDesign CS3) or Export (Illustrator CS3), and name and save the settings.

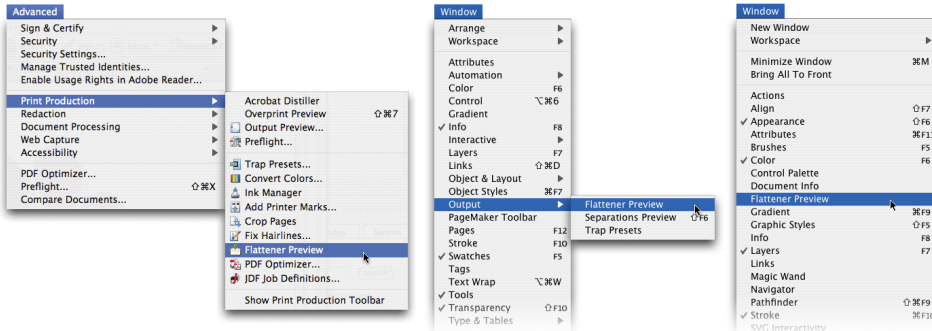
To create a custom flattener preset in Acrobat 8 Professional:

- 1 Choose Advanced > Print Production > Flattener Preview. In the Transparency Flattener Presets dialog box that appears, adjust any setting to customize the preset.
- 2 Click Save to name and save the preset for use when printing and editing.

Flattener settings and Flattener Preview

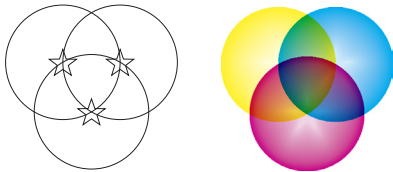
Your most important tool when working with files containing live transparency is the Flattener Preview. Using the Flattener Preview is the best way to determine exactly which elements in an Illustrator CS3, InDesign CS3, and PDF file will be affected by flattening prior to generating the output. This section gives some examples of the effects of several Transparency Flattener settings on an artwork sample created in Illustrator CS3; the effects would be the same in InDesign CS3 and Acrobat 8 Professional.

To access Flattener Preview, choose it from the appropriate menu:



Accessing the Flattener Preview dialog box and panels (left to right): in Acrobat 8 Professional, InDesign CS3, and Illustrator CS3.

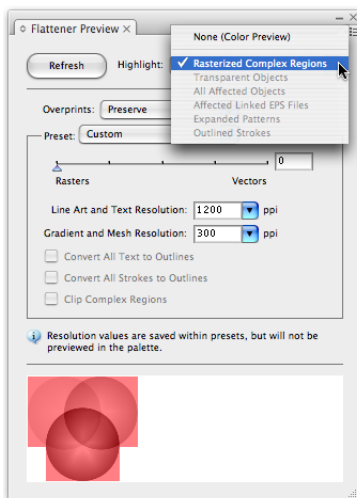
In the following graphic, the artwork being flattened consists of three overlapping elements, each with a blending mode of Multiply. Each element consists of a blend from an inner to an outer shape. In the example, the blend is from a star to a circle. The combinations of transparent blends creates a condition in which the Transparency Flattener may rasterize portions of the artwork, depending on the Raster/Vector Balance setting.



Flattening example image: Illustrator CS3 artwork in outline mode (left) and normal preview mode (right).

Complex regions rasterized

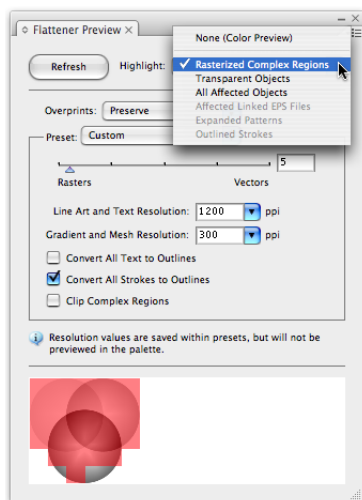
With the Raster/Vector Balance set to 0 (full raster), the only option available in the Highlight pop-up menu in the Flattener Preview panel is Rasterized Complex Regions (because everything on the page is part of the complexity region). Note that all three objects are included in the rasterized region, and that the Clip Complex Regions option is not enabled. The edges of the three circular objects will be rendered at the Gradient and Mesh resolution.



Illustrator CS3 Flattener Preview panel highlights which objects are sources of transparency or will be affected by flattening. A Raster/Vector setting of 0 (full raster) rasterizes all of the artwork.

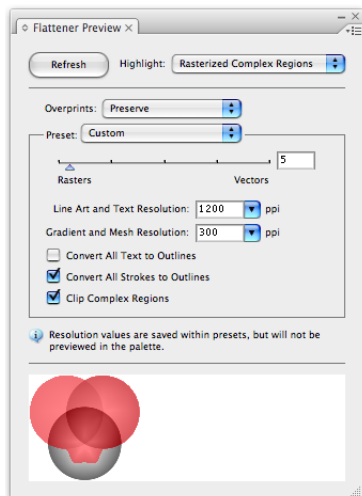
Mixed raster and vectors and clipped vector edges

With the Raster/Vector Balance set to 5, the Highlight menu has additional options. At this setting, almost all of the artwork is still included in the rasterized region. Most (but not all) of the edges of the artwork will be rendered at the Gradient and Mesh resolution. Two parts of the outer edge of the bottom object fall outside the rasterized region, and would thus be rendered as vectors. This Raster/Vector Balance setting could create a visible difference in the edges at the points where the raster and vector edges meet.



Flattener Preview panel: Highlight > Rasterize Complex Regions: All elements that the Flattener will rasterize are highlighted. Raster/Vector set to 5 leaves some of the artwork as vectors. Clip Complex Regions creates a clipping mask that renders the outer edges of the artwork with a clean, uniform vector edge.

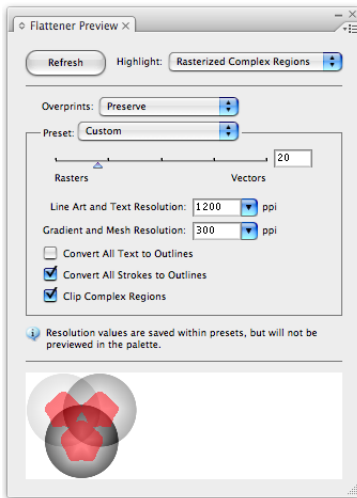
If the Raster/Vector Balance is set to 5, and you choose the Clip Complex Regions option, the Flattener will create a clipping mask that renders the outer edges of the artwork with a clean, uniform vector edge.



Flattener Preview panel: Clip Complex Regions: How option affects flattening.

Central parts of objects rasterized

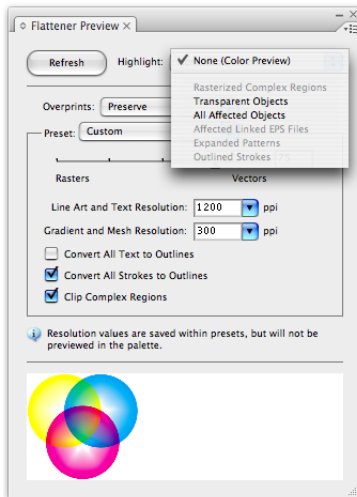
With the Raster/Vector Balance set to 20, only the central parts of each object are rasterized. If you choose the Clip Complex Regions option, the Flattener will create a clipping path along the image's contours. In this case, parts of the inner circular edges will be rasterized, and where these rasterized edges meet their vector neighbors may be visible.



Flattener Preview panel: Raster/Vector slider at 20 and Clip Complex Regions is chosen: only some of the artwork will be rasterized.

No rasterization

With the Raster/Vector Balance set to 75 or higher, no part of the artwork will be rasterized. As a result, the Rasterized Complex Regions option in the Highlight pop-up menu is disabled.



Flattener Preview panel: No rasterization will occur: Raster/Vector slider is close enough to Vectors to avoid rasterizing any items.

Correcting unexpected results

Achieving high-quality, flattened results depends largely on using the appropriate Flattener settings for your production process and output device. Improper settings can contribute to poor quality or unexpected results. (Using an incorrect Flattener setting is analogous to saving a file in the wrong format or choosing the wrong color profile.)

If you get unexpected results from the Flattener, you can usually correct the situation by adjusting the Flattener settings or changing the stacking order of transparent objects (or objects affected by transparency) in the original files. The following topics cover fixes for other common issues you may encounter when working with the Flattener.

Visual effects of rasterization and outlining

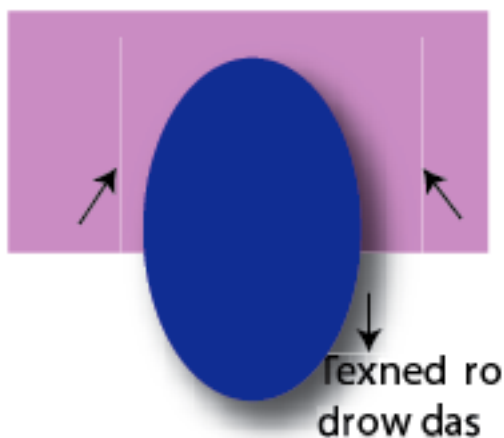
Because the Flattener outlines or rasterizes type and vectors, it can sometimes produce undesirable visual results, such as *color stitching*, jaggies, or slightly thickened letterforms or strokes. These results can be more pronounced if the Flattener rasterizes or outlines only part of a complex design. The Flattener rasterizes or outlines objects based on the kinds of objects being flattened (such as type, gradients, and spot colors), the file's complexity, and the settings that are in effect when the flattening takes place.

For example, if the Flattener rasterizes or converts part of a line created with a stroke into a filled outline object, the line may slightly change width at the point where the conversion happens. These effects can occur when printing to a PostScript device because PostScript processes strokes differently than filled outline objects. If you get this effect in your output, try choosing the Convert All Strokes to Outlines option in the Flattener settings.

Output devices and resolutions

Sometimes rasterization is required as part of flattening. The resolution used for rasterization must be user defined because the output device resolution is not automatically available at the time of flattening. Flattener resolution set too low may produce apparent areas of rasterization that don't visually match adjoining unrasterized areas. Flattener resolution set inappropriately high may cause flattening to take a long time and produce large output files that aren't noticeably better in quality.

As the following example shows, adjoining atomic regions can, under certain circumstances, cause thin white lines to appear, called display artifacts. The noticeable white gap between two parts of the background appears only when viewing a flattened PDF in a viewer that does anti-aliasing or smoothing, not in print. (In Acrobat 8 Professional, the options that may cause stitching in the preview are called Smooth Text, Smooth Line Art, and Smooth Images in the Page Display section in the Preferences dialog box.)



Artifacts: Thin white lines, indicated by the arrows, typically appear only in flattened object viewed on screen, not in print output.

Host and RIP font mismatch

In some situations, a font loaded on your computer is replaced by a similar font that is loaded on a printer's RIP. For example, the font Helvetica™ is one of the standard fonts that is included in all PostScript RIPs. In the PostScript printer description file (PPD) for a PostScript printer, Helvetica is listed as being resident in the printer. When you print a job in which you use Helvetica, the PostScript file generated by the application may not include the version of Helvetica on your local system—the RIP's version is used instead. If the version of a font in the RIP differs from the version used on your computer, the flattened text may look different than the text the RIP printed using its version of the font.

When printing from InDesign 2, CS, CS2, or CS3, you can avoid mismatched fonts by choosing Download PPD Fonts in the Graphics panel of the Print dialog box.

Color stitching and artifacts

Color stitching is the visible color transition that appears between objects whose coloring would otherwise be identical. It most commonly occurs when the Flattener rasterizes only part of a vector object. To eliminate color stitching, increase the Raster/Vector balance setting in the Flattener.

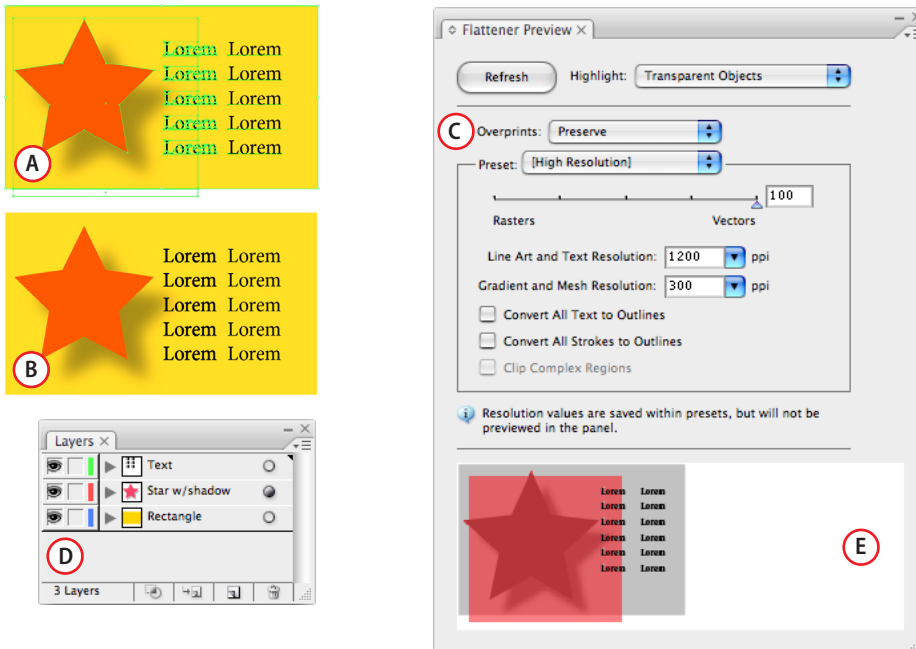
Artifacts may appear in a background image in Illustrator or InDesign that has no transparency effects, when artwork or text with transparency is placed on top of the background image and flattened. The artifact appears because flattening included only part of the background image. To eliminate the artifacts, include the entire image in the flattening by selecting the background image and make it 99% transparent. The visual appearance of the image won't be affected.

Font conversion during flattening

If text is involved in transparency, the Flattener often needs to rasterize or outline some of the glyphs in the text. The Flattener uses the font information contained in the font files on the computer where the flattening is taking place. Because the Flattener only flattens text in areas affected by transparency, it's possible that some glyphs will be flattened while others remain unaffected. In most instances, you cannot detect a difference between the flattened and normal text in the final output.

The example job in the following graphic shows that the Flattener may need to outline type if the type is involved in transparency. Outlined type can appear heavier than type that hasn't been outlined, because it does not have font hinting applied. (Font hinting refers to instructions built into a font to optimize its shape at a wide range of sizes.) To ensure that all of the text is uniform in weight, select the Convert All Text to Outlines flattener option.

The stacking order also is important. Notice in the Layers panel that had the text been placed on top of the drop shadow, it would not have been outlined. Whenever possible, place text on top of a transparent element to prevent it from being outlined.



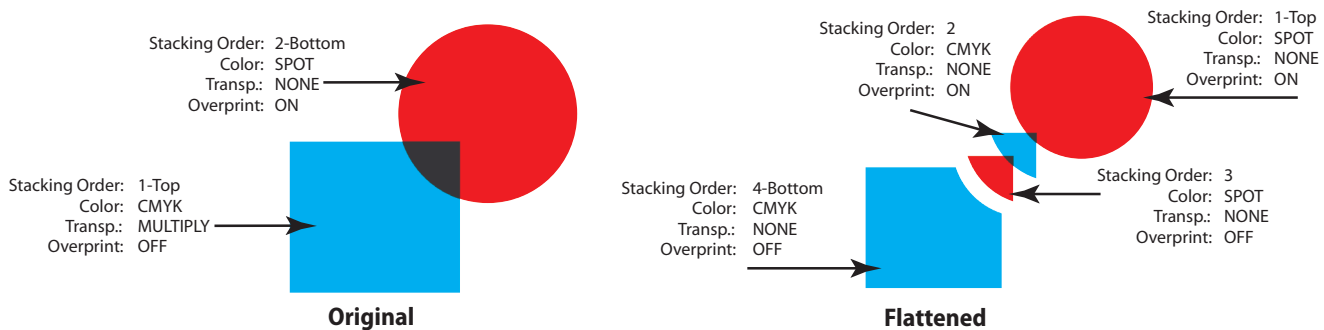
Outlined text in Illustrator CS3: **A.** High Resolution Flattener preset and flattening results: left text block, under star's drop shadow, was outlined; right text block was unaffected. **B.** Simulates design's output on low-resolution device, with outlined text appearing heavier than other text. **C.** Flattener Preview panel with High Resolution flattening settings (top) and transparent objects (bottom). **D.** Layers panel showing objects' stacking order. **E.** Text in red is outlined, other text is unaffected by transparency.

Overprinting

If a document contains no transparency, Illustrator CS3 and InDesign CS3 preserve overprinting. If overprinting is mixed with transparency, the Flattener may remove the overprint settings, but it maintains the appearance of the overprinting in the flattened image.

If an overprinting object interacts with transparency, the Flattener will process the overprint (that is, the overprinted object is broken down into atomic regions and their colors take the overprint into account). Flattening of overprinting does not visually change the graphic.

In other scenarios, the Flattener may generate overprint instructions as a result of the flattening—even if no overprint instructions were originally present. Overprint instructions can be created when the Flattener processes spot color objects that interact with transparency. For this reason, it is important that you enable overprinting support on the RIP.



Effects of flattening on overprints and spot colors

In most cases, whether the Flattener preprocesses overprinting instructions or a PostScript RIP afterwards interprets the same overprinting instructions, yield the same results.

The Flattener preprocesses overprinting instructions—including when you save an Illustrator EPS file with Preserve Overprints—when overprinting objects that:

- Have transparency directly applied to them (for example, they are less than 100% opaque).
- Are part of a group to which transparency is applied.
- Overlap (that is, sit underneath—regardless of layer) and are within approximately one point of objects or groups that are transparent.
- Are in a placed file to which you apply transparency.
- Are part of a complexity region that the Flattener must rasterize.

Image replacement proxies (OPI/APR) and flattening

When the Flattener encounters a region of a document that involves images that interact with transparency (for example, transparent type or a drop shadow that falls over an image), it uses whatever image data is present during flattening to render the overall effect. If the image involved is a low-resolution placeholder or OPI proxy image, the Flattener uses that image. (Open Prepress Interface (OPI) is an industry-standard mechanism for using low-resolution proxy images in a page layout application that will be replaced by high-resolution counterparts at the RIP.) The PostScript (or flattened PDF) output does not contain the comments required by the OPI server to replace the low-resolution image with its high-resolution counterpart. In fact, the original image was probably broken up among multiple atomic regions. Unless you are absolutely sure that an image does not interact with transparency, you must *fatten* (that is, replace the low-resolution images with high-resolution images) before you flatten transparency—“Fatten before you flatten!”

If you don't swap in high-resolution images, the final print quality may be low resolution, and output of transparency effects contained in images may not be as expected.

Transparency effects applied to placeholder or proxy images are properly rendered only if you perform image replacement prior to flattening. The impact on your workflow depends on the file formats that you use and the applications involved. If your workflow is based on Adobe PDF, and you use an OPI server that operates on PDF 1.4, you can keep transparency live by using PDF 1.4 until after replacing images. If the workflow is based on PostScript or EPS, you must manually replace images from within Illustrator or InDesign prior to flattening.

Transparency and Color

It's important to properly configure the color settings in InDesign CS3 and Illustrator CS3 prior to flattening a job. During flattening, the Flattener may transform colors involved in transparency—and if the application's color settings are not configured correctly, the colors affected by the Flattener may not match the actual press conditions.

Whether or not you use a color-managed workflow, be aware that transparency in your jobs can affect your color output. This section explains how the Transparency Flattener can affect your existing color workflows and how to configure the Flattener's settings to achieve optimal color output.

Transparency Blend Space

To blend transparent objects together, the Flattener must use a single color space (RGB or CMYK) for the blending. Called the *Transparency Blend Space* (or simply, “blend space”), this space may be either the RGB or CMYK document color space. InDesign CS3 and Illustrator CS3 set the document color space in the Working Spaces section of the Color Settings dialog box (Edit > Color Settings). For example, if the Transparency Blend Space is set to CMYK, the color space profile used is the one defined as the document's CMYK Working Space. If a document is not being color-managed, a generic RGB or CMYK color profile is assigned to the document color space.

The Transparency Blend Space setting is determined differently in InDesign CS3, Illustrator CS3, and Acrobat 8 Professional:

In InDesign CS3, a document can contain both RGB and CMYK color objects. You must choose whether to use the RGB or CMYK blending space (Edit > Transparency Blend Space).

In Illustrator CS3, a documents are either in RGB or CMYK color mode. The blending space of a document is always the same as the document color mode (File > Document Color Mode).

In Acrobat 8 Professional, a PDF document can contain both RGB and CMYK color objects. When printing, Acrobat uses the Color Profile setting from the Output section of the Advanced Print Setup dialog box. Ideally, when printing to a CMYK output device this color profile will be the same color space in which CMYK objects in the PDF already reside. Using the same color space will prevent CMYK-to-CMYK conversions during flattening.

To display the Acrobat Color Profile settings:

- 1 Choose File > Print.
- 2 Click the Advanced button to get to the Advanced Print Setup dialog box.
- 3 Select Output from the list on the left.

Choosing a Transparency Blend Space in InDesign CS3

In InDesign CS3, the Edit > Transparency Blend Space setting is application based, rather than document based, like Illustrator CS3.

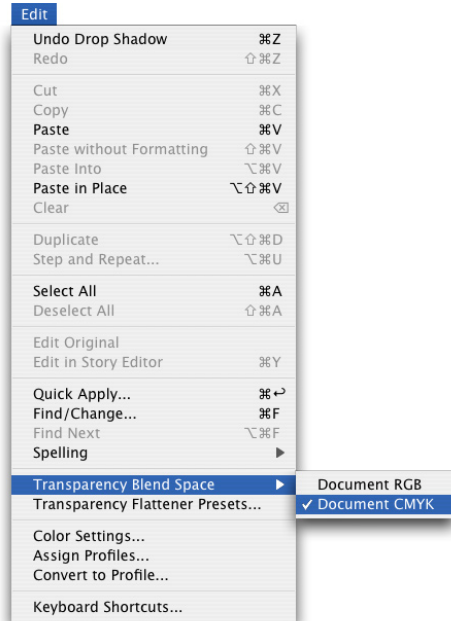
Color management and Adobe Creative Suite

The topic of color management is beyond the scope of this document. For information about color management in Adobe Creative Suite 3, see, *Color Workflows for Adobe Creative Suite 3* at www.adobe.com/designcenter/ and www.adobe.com/studio/print/.

Color terminology: *color model* and *color space*

A color model is the dimensional coordinate system used to numerically describe colors. Some models include RGB, HSB, CMYK, and L*a*b*. The transparency blending space allows you to choose between CMYK and RGB color models.

Color space is a variant of a color model and has a specific gamut (range) of colors. For example, within the RGB color model are a number of color spaces: Adobe RGB, sRGB, and Apple RGB. While each of these color spaces defines color using the same three axes (R, G, and B), their gamuts are different.



Transparency Blend Space menu sets the transparency blending space for the document.

Use this list to determine the appropriate setting.

If you create documents for print only, choose Document CMYK for the blend space.

If you create documents for web only, choose Document RGB for the blend space.

If you create documents for both print and web, decide which is most important, and then choose the blend space that matches the final output.

If you create a high-resolution print piece that you'll also publish as a high-profile PDF document on a web site, you may need to switch the blending space back and forth before final output. In this case, be sure to reproof the color on every spread that has transparency. Avoid using the Difference and Exclusion blend modes—these modes can change the appearance dramatically.

Transparency Blend Space and color management

The color conversions that the Flattener performs are in addition to the conversions performed at output. When a job that contains live transparency is printed (or exported to a file format that doesn't support live transparency) color conversions may occur in the Flattener and the application's print engine. Further color conversions may happen in the printer.

Printing transparency: step-by-step

When printing a page containing live transparency from InDesign CS3 and the Transparency Blend Space is set to Document CMYK, the following steps will take place (steps 3 and 6 may perform color conversions):

- 1 Transparency is detected on a spread by the Flattener.
- 2 The Flattener refers to the Transparency Blend Space setting to determine the appropriate color space in which to blend transparent objects. In this example, Document CMYK was selected. The Document CMYK color space is determined by the active color settings (Edit > Color Settings).
- 3 Any image that is tagged with a color space that differs from the selected blend space is converted to Document CMYK.
- 4 The Flattener flattens the transparency.
- 5 The flattened data is passed to the print engine.
- 6 The print engine compares the color information in the flattened data with the Printer Profile color space set in the Print dialog box. If the color settings don't match, the print engine converts the colors to the color space indicated by the Printer Profile.
- 7 The color-managed job is printed.

Example 1: No color conversion

Scenario: You have an InDesign document that contains a single spread. The spread has one CMYK image and one element that contains transparency. The CMYK image contains a profile that matches both the InDesign document's CMYK Working Space profile and the Printer Profile. The Transparency Blend Space setting is set to Document CMYK.

Using the step numbers from the previous "Printing transparency: step-by-step" section:

- 3 Because the image's color profile matches the profile of the transparency blending space, no conversion is necessary during the flattening process.
- 6 Because the image's color profile also matches the Printer Profile, no color conversion is performed by the print engine.

In this example, no color conversions take place.

Example 2: Unwanted color conversion due to incorrect Transparency Blending Space setting

Scenario: You have an InDesign document that contains a single spread. The spread has one CMYK image and one element that contains transparency. The CMYK image contains a profile that matches both the InDesign document's CMYK Working Space profile and the Printer Profile. Unlike Example 1, the Transparency Blending Space is set (incorrectly for this job) to Document RGB.

Using the step numbers from the previous "Printing transparency: step-by-step" section:

- 3 Because the image's color profile does not match the profile of the transparency blending space, the image is converted from the CMYK color space to the Document RGB space.
- 6 Because the image's color space has been converted to Document RGB by the Flattener and thus does not match the CMYK printing space, the print engine converts the image back to CMYK.

In this example, two unnecessary color conversions took place due to the improper setting of the Transparency Blend Space. These unwanted color conversions would very likely result in a noticeable shift in the color of the image.

Placing EPS files into Illustrator CS3

When placing an EPS file into Illustrator CS3, you can link or embed the file. Embedding the file converts it to the document color mode. Linking the file maintains its color settings until the Illustrator document is printed or exported.

Color-managed images and the Flattener

Keep the following in mind when preparing color-managed images (tagged with an ICC profile) for use in an InDesign or Illustrator CS3 job that contains transparency: an image's color space must match the Transparency Blend Space, and if it does not, will be converted to the blend space. Thus, an image (with or without transparency) placed in an InDesign CS3 spread or Illustrator CS3 page containing transparency will be converted to the color space of the Transparency Blend Space.

Converting the colors of all objects on a spread to the color space of the Transparency Blend Space yields consistent color across any two same-colored objects on a spread, and prevents visible color shifts at the edges of transparency.

Untagged images and the Flattener

When Illustrator CS3 or InDesign CS3 encounter untagged (not color-managed) images that use the same color model as the blend space, the application assumes those images are saved in the same color space as the blend space. Thus, no color conversion will occur.

Settings for color-managed images

When placing images into InDesign CS3 and Illustrator CS3, it's always best to use images that have been prepared for the same color space as the Transparency Blend Space. This way when flattening occurs, no color conversion is necessary occurs.

Settings for images to be used in both CMYK and RGB workflows

When creating an image for use in both RGB and CMYK workflows (such as for print and web), it is best to save the image as a color-managed RGB file. Only a small change in image appearance occurs in the conversion from one RGB color space to another RGB color space, or an RGB color space to a CMYK color space.

Avoiding CMYK-to-CMYK conversions

Do not place a color-managed CMYK image that is saved in a color space that differs from the Transparency Blend Space, especially if the blend space is CMYK. CMYK-to-CMYK conversions often noticeably change the image appearance due to the nature of the conversion. CMYK-to-RGB conversions are somewhat better in this respect, but also not desired.

In-RIP color management and transparency

If you want to use your RIP's color management features, you may have to change the way you work. This is necessary because of the way the Transparency Flattener works: if a page or spread contains a transparent item, the Flattener has to convert all graphics and images on that page to the Transparency Blend Space. The color transformation for graphics on these pages are handled by the Flattener before the RIP gets the data. If you want to use your RIP's color management function for jobs that contain transparency, you can either let the RIP partially color-manage your job or work in a large color space.

Letting the RIP partially color-manage your job

The Flattener converts color only on those pages containing transparency. In this scenario, you let the Flattener convert the colors for graphics on pages with transparency, and you let the RIP convert the colors on pages without transparency.

To use this method, your document working space in Illustrator CS3 or InDesign CS3 should be the same as the output device's color space. This ensures that the Flattener and the RIP converts all elements to the same color space.

Working in a large color space

Some digital output devices are capable of print colors that are not available in a standard press CMYK gamut (for example, by using more than four ink colors). In some cases, RIPs for these devices have built-in color management that optimizes the colors of the graphics for the device's gamut. To take advantage of the RIP's color optimization, you can work in a large color space (such as Adobe RGB) in your Adobe Creative Suite 3 application.

This method works well if you have control over the creation of the images and graphics that you print. If you control how the graphics are created, make sure that they are created in a large color space (for example, Adobe RGB). After placing the Adobe RGB images into your Adobe Creative Suite 3 application, be sure to set your blend space to Document RGB, and your RGB working space to Adobe RGB. Because your graphics' color profiles match that of the working space, no color transformation takes place—even on pages with transparency.

Spot colors in exported Illustrator files

In Illustrator 10, CS, CS2, or CS3 artwork, a file with transparency and spot colors must be exported in specific formats to get correct spot color separations:

- Native Illustrator 10, CS, CS2, or CS3 (in which transparency remains live)
- Illustrator 10, CS, CS2, or CS3 EPS (in which transparency has been flattened)
- PDF 1.4, 1.5, 1.6, or 1.7 (in which transparency remains live)

In the case of other flattened formats, such as EPS files that were created by using Illustrator version 9 or earlier and PDF 1.3 and earlier, spot colors may convert to process when you save the file and transparency will be lost.

The Flattener and spot colors

Adobe Creative Suite 3 applications fully support using spot colors with transparency. For most jobs, no special treatment is needed for spot colors. But in a few special cases in a print workflow, spot colors may be converted to process: the use of certain blending modes, conversion of spot colors of placed graphics to process, and the use of the Simulate Overprint feature.

Blending modes that affect spot colors

Certain blending modes, such as Difference, Exclusion, Saturation, and Luminosity, can introduce unexpected process colors, or convert spot colors to process. If these blending modes are used in your files, create a flattened PDF file and use the Separations Preview feature in Acrobat 8 Professional to determine what colors will print.

Converting placed graphics with live transparency and spot colors to process colors

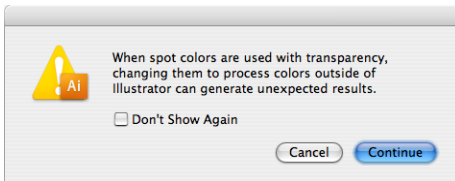
If you place a graphic (such as a native Illustrator file that contains spot colors and live transparency into InDesign CS3) and then use InDesign to convert the spot color to process when printing or exporting, color discrepancies may occur between the spot color in the placed graphic and the element created in InDesign that use the same spot color. This difference is caused by the way the Flattener processes live transparency in placed graphics, compared to how it processes live transparency in the application in which the Flattener is running.

Creating a customized high-resolution flattener preset

You may want to make your own variation of the high-resolution Flattener preset. For example, if your device has an output resolution of 2540 ppi, you might create a preset with a Line Art and Text resolution of 1270 or 2540 ppi.

Placing EPS files into Illustrator CS3

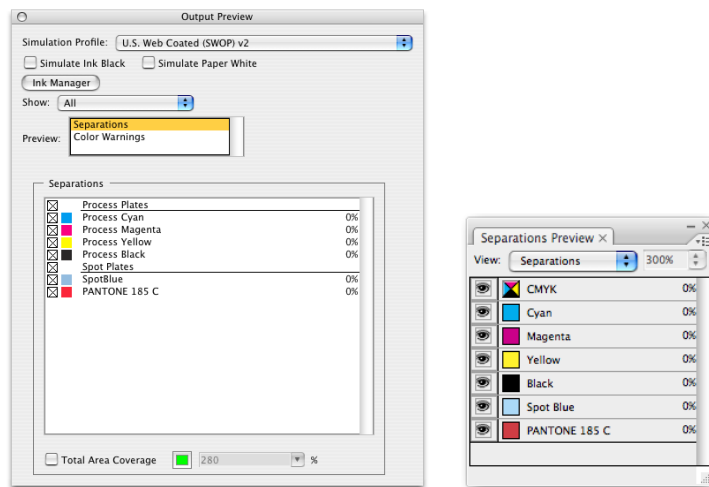
When placing an EPS file into Illustrator CS3, you can link or embed the file. Embedding the file converts it to the document color mode. Linking the file maintains its color settings until the Illustrator document is printed or exported.



Illustrator CS3 process conversion warning dialog box: If your Illustrator document contains a spot color and transparency, this dialog box appears.

Previewing separations

Be sure to use the Separations Preview available in InDesign CS3 and Output Preview in Acrobat 8 Professional to confirm your expectations prior to output. Use these panels to turn on and off the display of individual separations, and display color values at the position of your mouse on the page.



Previewing separations: Acrobat 8 Professional Output Preview dialog box (left) and InDesign CS3 Separations Preview panel (right).

Best Practices

As a service provider, you often receive Adobe publishing software files without knowing exactly what they contain. To properly process these files, you need to determine if they contain any live transparency. In addition, you need to properly configure the settings that the Flattener uses before it flattens a file.

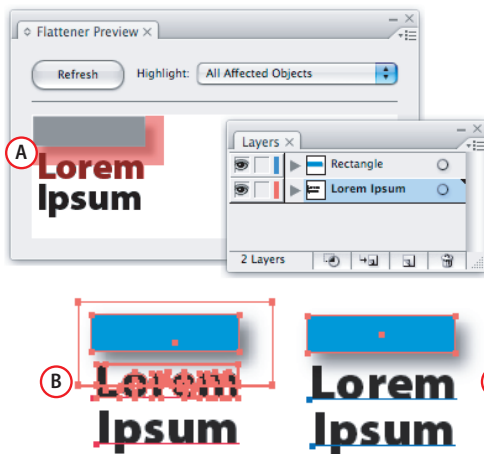
This topic discusses strategies for detecting live transparency by using the Flattener preview and how to use the Flattener's settings to determine the elements that flattening effects.

Stacking order

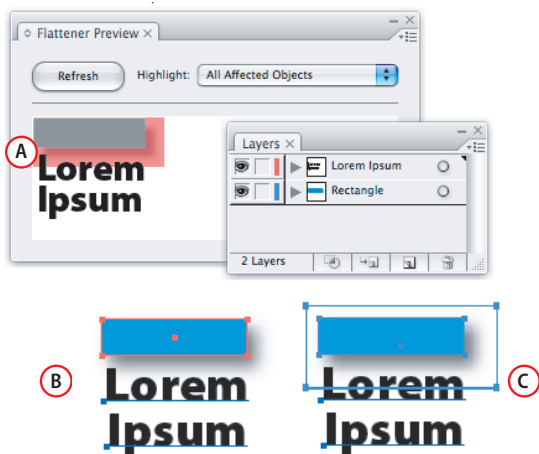
Wherever possible place text and line art elements above all nearby sources of transparency to minimize the possibility that the Flattener will process them. If the artwork allows, place such elements on their own layer that is above all layers containing sources of transparency. The following Illustrator CS3 graphics show how the stacking order can affect flattening in Illustrator, InDesign CS3, or Acrobat 8 Professional.

Stacking order within a layer

Stacking order is the front-to-back or top-to-bottom order of objects on a page, both within and between layers. The stacking order of an object within a layer can be set by using the Bring to Front, Bring Forward, Send Backwards, and Send to Back options in the Object > Arrange menu in InDesign CS3 and Illustrator CS3.



Unwanted outlined type during flattening: Text on a layer underneath a drop shadow (object containing transparency).
A. Beneath a transparent object, Lorem will be affected by the Flattener. B. Flattening converts characters to outlines from font glyphs. C. Printed to a low-resolution output device, Lorem appears bolder than Ipsum because it has been converted to outlines.



Text placed above transparency (drop shadow) prevents outlining: A. Flattener Preview panel shows text won't be affected (not colored red). B. Before flattening. C. After, showing no font glyphs converted to outlines.

Overprint support

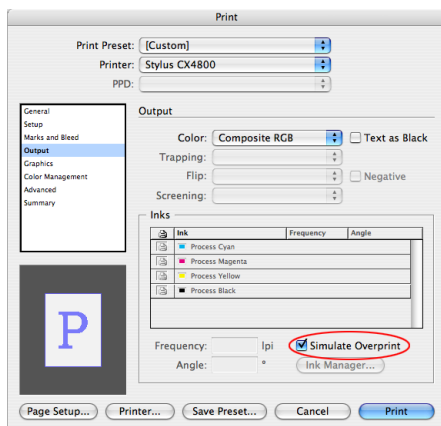
In some cases, when spot colors are involved in transparency, the Flattener relies on overprinting to render the proper result. Be sure to set your PDF viewers, composite proofers, and production RIPs to implement overprinting and not ignore it. To properly view flattened transparency in a PDF file in Acrobat 8 Professional or Reader 8, as placed in an InDesign CS3 document, enable Overprint Preview.

Simulating overprinting

Use the Simulate Overprint feature for creating proofs when your document contains spot colors that interact with transparency, and the software that you'll use to view the flattened file, or the printer that will print it, doesn't support overprinting. The Simulate Overprint feature creates the visual effect of overprinting. It renders transparency that interacts with spot colors, by converting all the spot colors to process colors, whether or not they are involved in transparency.

This feature is intended for creating proofs; it is generally not recommended for final production output. The converted image may appear the same as its spot-color counterpart, but will print as four-color CMYK rather than as spot color plates.

The Simulate Overprint option is available in print and export dialog boxes in Illustrator, InDesign, and Acrobat 8 Professional. (Unique to Illustrator CS3, the Simulate Overprint option also appears in the Flattener Preview panel.) Choosing this option causes the Flattener to preprocess all of the overprint attributes and render them without reliance on overprinting—whether or not the file contains any live transparency—and to convert spot colors to process in any affected area. For this reason, be cautious using this method to flatten transparency in an Illustrator file.



The Simulate Overprint option in InDesign CS3. When selected, color separations are turned off when printing to a CMYK output device.

Using the Flattener Preview to detect transparency

The Flattener preview, available in InDesign CS3, Illustrator CS3, and Acrobat 8 Professional, is the best way to detect transparency in a file that was created with Adobe publishing software. The following table shows the Flattener preview options and functions by application.

FLATTENER PREVIEW FUNCTIONS BY APPLICATION			
INDESIGN CS3	ILLUSTRATOR CS3	ACROBAT 8 PROFESSIONAL	FLATTENER PREVIEW FUNCTION
•	•	•	Affected Graphics shows all placed graphics that are involved in transparency.
	•	•	Affected Linked EPS Files shows all placed-linked EPS files that are involved in transparency.
•	•	•	All Affected Objects shows all objects that interact with transparency.
•	•		All Rasterized Regions shows all regions of the document that the Flattener would rasterize. These regions include complexity regions (previewed by the Rasterized Complex Regions preview option) and rasterized atomic regions. (To use this option in Illustrator, you must select Detailed Preview in the Flattener Preview panel menu.)
	•	•	Expanded Patterns shows all patterns that would be expanded because they are involved in transparency.
•	•	•	Outlined Strokes shows all strokes that would convert to outlines because they are involved in transparency or because you selected Convert All Strokes to Outlines.
•	•		Outlined Text shows all text that would be converted to outlines because it is involved in transparency or because you chose the Convert All Text to Outlines option.
•			Raster-fill Text and Strokes shows all text and strokes that the Flattener will outline to act as clipping masks for rasterized image data.
•	•	•	Rasterized Complex Regions shows areas that will be rasterized as determined by the Raster/Vector Balance control.
•	•	•	Transparent Objects shows objects that are sources of transparency, including those objects to which non-normal blending modes, styles, and raster effects are applied, as defined in “Determining whether an object will be flattened” (page 5) . This option also highlights overprinting objects that interact with transparency.

Flattening and printing performance trade-offs

Raster/Vector Balance settings trade off time and memory required to flatten a file versus the time to spool and print it.

Generally (when using resolution settings appropriate for high quality printing), if the Raster/Vector Balance in your Flattener setting is set to Vector (the far right position), the time and memory required to flatten a file may be greater if the file contains extensive transparency. The resulting flattened file, however, is usually smaller and takes less time for spooling because its rasterization is kept to a minimum. If the Raster/Vector Balance is set to Raster (the far left position), the time and memory required to flatten the same file can be substantially less. The resulting flattened file, however, may be much larger and take more time for spooling.

In either case, a flattened file may take longer to print than a file that doesn’t require flattening because of the memory demands a flattened file places on the RIP. These demands occur either because the Raster/Vector Balance setting has created an excessively large rasterized file or because the Raster/Vector Balance setting has created a file filled with a large number of small vector objects and clipping paths. (See “Choosing the proper resolution settings” on page 33.)

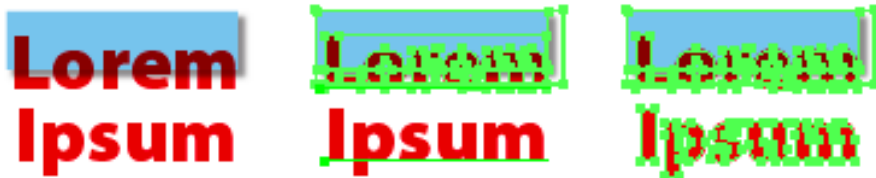
Flattener option settings and when to use them

The Flattener in Illustrator CS3, InDesign CS3, and Acrobat 8 Professional includes the following options:

Convert All Text to Outlines With this option, all type converts to outlines, whether it interacts with transparency or not. If you do not choose this option, type converts to outlines only as necessary in transparent regions.

Because the Flattener may be required to convert type involved in transparency to outlines, converted text can appear thicker or bolder on-screen and when printed to lower-resolution output devices. Plus, stitching problems may occur when only part of the text is converted to outlines. You can often avoid this problem by converting all type to outlines.

In some cases you cannot move text above a transparent object because the text needs to be affected by the transparency. In the illustrations, the red text must be affected by the transparent box and drop shadow, so it cannot be moved above the transparent object. By converting all text to outlines, the text not being flattened appears the same as the text being flattened.



Left to right: Original, Convert All Text to Outlines off, Convert All Text to Outlines on after applying Object Flatten Transparency in Illustrator CS3

Converting all type to outlines may degrade its appearance (it may appear bolder than normal), and may increase flattening time or memory requirements. You may, therefore, want to manually convert text to outlines in Illustrator CS3 or InDesign CS3 where type interacts with transparency.

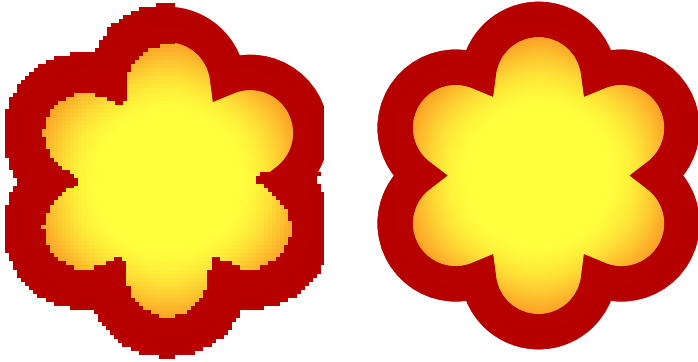
Convert All Strokes to Outlines With this option, all strokes convert to outlines whether or not they interact with transparency. If you do not choose this option, the Flattener converts strokes to outlines only as needed in transparent regions. Similar to the Convert All Text to Outlines option, this option applies to strokes rather than type.

Because the Flattener may be required to convert strokes involved in transparency to outlines, converted strokes can appear thicker and less precise on-screen and when printed to lower-resolution output devices. Stitching problems may occur when the Flattener only converts part of a stroke to outlines; avoid this problem by converting all strokes to outlines.

Converting all strokes to outlines may degrade their appearance (they may appear thicker than they should), and may increase flattening time or memory requirements. You may, therefore, want to manually convert strokes to outlines where they interact with transparency.

Clip Complex Regions With this option, the Flattener creates clipping paths around complexity regions—certain rasterized portions of a transparent design. This option is only available if the Raster/Vector Balance is set at an intermediate position between the left and right settings.

If you set the Raster/Vector Balance setting to any intermediate value, Clip Complex Regions decreases the possibility of stitching problems along the boundaries of the complexity region. It may also eliminate white backgrounds and stitching artifacts within the flattened file. However, the resulting clipping path may be so complex that older RIPs without sufficient RAM may be unable to print the file.



***Choosing whether to clip:** Not clipping complex regions (left) and clipping (right). The left shows obvious differences in rasterized shape edges where rasterized regions meet shapes still in vector form.*

Choosing a file format

When making decisions about the file types to use in your production workflow, try to choose a format that supports live transparency. Using a file format that supports live transparency is the best choice for prepress because you have complete control over the flattening process until the moment the file is printed or output. (For a list of these file formats, see “Live transparency” on page 4.)

Illustrator native, InDesign native, and PDF file formats

Because they can contain live transparency, Illustrator CS3 native, InDesign CS3 native, and PDF 1.4, 1.5, or 1.6 file formats are the best choice for prepress.

Photoshop files

Photoshop files with transparent backgrounds correctly print and output when you place them into Illustrator or InDesign documents. Most applications that can accept file formats with transparency masks (such as TIFF and PDF 1.4 and 1.5) can use this transparency information.

Note that Illustrator CS3 and InDesign CS3 let you directly place native Photoshop files; however, all visible layers are effectively flattened—any remaining transparency is reduced to a single alpha channel. As a result, the blending modes of layers in a Photoshop file (.PSD) do not remain live when placed into one of these applications.

File formats that do not support live transparency

If you must use a file format that doesn’t support live transparency (for example, PostScript, EPS, PDF 1.3, or PDF/X), consider the following:

- Illustrator artwork that you save as Illustrator 10, CS, CS2, or CS3, EPS, or PDF 1.3 is flattened—allowing you to place the file in older layout applications—but it may be opened in an unflattened state in Illustrator at any time to inspect and correct flattening problems (should they occur). You can open the file in an unflattened state because these formats contain all of the live transparency information in an Illustrator specific section of the file. You can open these files in Illustrator CS3, restore the live transparency objects for editing, and resave it with new flattener settings.
- InDesign CS3 files saved as either EPS or PDF 1.3 are flattened, but they correctly retain overprinting and spot colors.

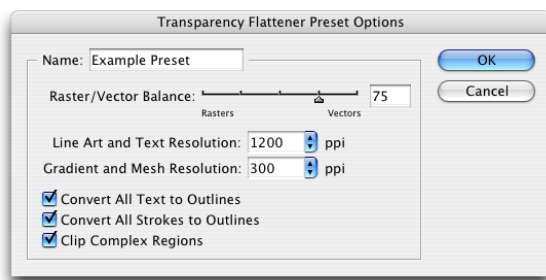
Choosing the proper resolution settings

Before flattening, adjust the Flattener resolution settings to match your target output conditions for the following file types that contain live transparency:

- Native Illustrator 10, CS, CS2, or CS3 (.AI)
- PDF 1.4, 1.5, 1.6, or 1.7 files created directly from Illustrator 9, 10, CS, CS2, or CS3; InDesign 2, CS, CS2, or CS3; and files saved by Acrobat 5, 6, 7, or 8 Professional. Note that any PDF file created with Acrobat Distiller will not contain live transparency (because Distiller processes PostScript to create a PDF and PostScript cannot contain live transparency).
- EPS from Illustrator 9, 10, CS, CS2, or CS3 (the file must have been saved with the Preserve Illustrator Editing Capabilities option chosen, and it must be opened in Illustrator).
- PDF 1.3 from Illustrator 9, 10, CS, CS2, or CS3 (the file must have been saved with the Preserve Illustrator Editing Capabilities option chosen, and it must be opened in Illustrator).

Basic guidelines for setting Flattener resolutions

Although your workflow requirements may vary, the following general guidelines will help you choose the proper resolution settings for your files:



Transparency Flattener Preset Options dialog box (InDesign CS3)

The Line Art and Text Resolution should be based on the resolution of the output device. To achieve the highest quality output, set the Line Art and Text Resolution to equal the output device resolution. In many cases, you can reduce the size of the output file and flattening time—without a significant reduction in quality—by setting this resolution to exactly one-half of the resolution of the output device. InDesign CS3, for example, uses a value of 1200 dpi for its built-in high resolution flattener preset. This resolution is appropriate for use with an output device that has a resolution of 2400 dpi. The Flattener also uses this value as the upper limit for rasterizing atomic regions in all transparency-savvy applications.

The Gradient and Mesh Resolution should match what is commonly used for drop shadows created in Photoshop (for example, 300 ppi). InDesign CS3 uses this value when it flattens drop shadows and feather effects applied to page objects. The Flattener also uses this value as the lower limit for rasterizing atomic regions in all transparency-savvy applications.

Note: This is the same value that applications already use for rasterizing meshes and gradients when printing documents to RIPs that don't support the PostScript 3 smooth shading feature.

The Document Raster Effects Resolution (Illustrator only) should match what is commonly used for drop shadows created in Photoshop (for example, 300 ppi). This value applies to all raster effects used in Illustrator, including live raster effects and resolution-dependent filters, such as Gaussian Blur.

Rasterization and resolution settings

In the following situations, the Flattener may rasterize vector elements:

Flattening atomic regions Flattening divides the transparency of a document into a collection of discrete areas called atomic regions. If an atomic region contains an image or multiple transparent gradient or mesh objects, the region is rasterized. The Flattener applies the Gradient and Mesh Resolution to this region unless it contains one or more images, in which case it applies the maximum of their resolutions. The Flattener also clips the resulting raster with the affected region's outline, thus preserving its shape in a resolution-independent form.

Flattening complexity regions A *complexity region* is an area that isn't retained in vector form except at the highest Raster/Vector Balance setting. Complexity regions are typically made up of a large number of objects that interact with transparency. Flattening a complexity region involves rasterizing all vector objects, images, and text inside it at the Line Art and Text Resolution. For this reason, make sure to set the Line Art and Text Resolution to a value that closely matches the characteristics of the output device.

Rasterization of type The Flattener will rasterize type at the Line Art and Text Resolution setting instead of converting it to outlines if you use a bitmapped or protected font.

Illustrator CS3 pixel-based raster effects Pixel-based raster effects in Illustrator CS3, such as Gaussian Blur, are rasterized with the Document Raster Effects Resolution before flattening and, therefore, the Flattener treats them as regular images.

Rasterization of overprinted objects When overprinted objects are rasterized, the appearance of overprinting is maintained in the final output.

Rasterizing atomic regions containing gradients or image data

The Flattener uses the Gradient and Mesh Resolution when rasterizing an atomic region unless the atomic region contains images. If the atomic region contains images, the resolution at which it is rasterized is that of the highest-resolution image involved.

Here are some examples to clarify these relationships:

- If a region to be rasterized includes a gradient mesh object and the Gradient and Mesh Resolution is set to 150 ppi, the region is rasterized at 150 ppi.
- If a region to be rasterized includes image data at 250 ppi and 300 ppi, the 250 ppi image will be upsampled to 300 ppi (using a bi-linear sampling algorithm), and the region is rasterized at 300 ppi.

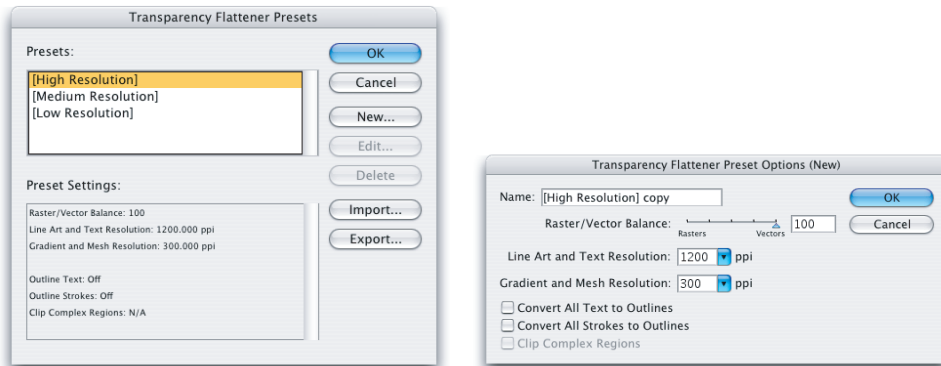
When the Flattener processes an area that includes a placed image, it attempts to leave both the image resolution and any user-applied rotation unprocessed. The Flattener may not be able to preserve the rotation or resolution of a rasterized image if several images, gradients, or meshes are intersecting in an atomic region. The Flattener uses an algorithm which allows it to automatically determine the rotation and resolution best suited for the atomic region. Generally, the Flattener does not downsample an image's resolution in order to maximize the image quality. Should the Flattener need to process an image, it usually upsamples an image's resolution. When processing images, the Flattener uses a bi-linear resampling algorithm.

Flattening Controls in Illustrator CS3

This topic describes the transparency controls and features in Illustrator CS3—menus, dialog boxes, preferences, and panels. For more information on Illustrator CS3 and its features, see Illustrator CS3 online Help.

Transparency Flattener Presets dialog box

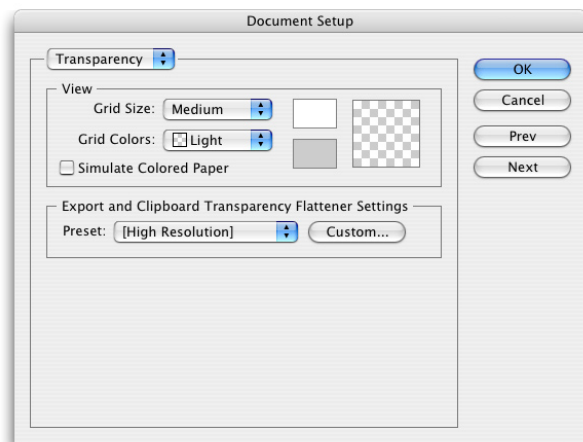
To access the Transparency Flattener Presets dialog box, choose Edit > Transparency Flattener Presets. This dialog box provides access to defined Flattener presets. The built-in presets are not editable, but you can use them as the basis for customizing and modifying presets (select a preset and click New or Edit). Use the Flattener Presets dialog box to import Flattener presets created by customers or export your own presets for distribution. The presets you create here will be available when you print or save a file to a format that needs to be flattened.



Illustrator CS3 Transparency Flattener Presets (left) and Transparency Flattener Preset Options dialog box (right)

Document Setup dialog box

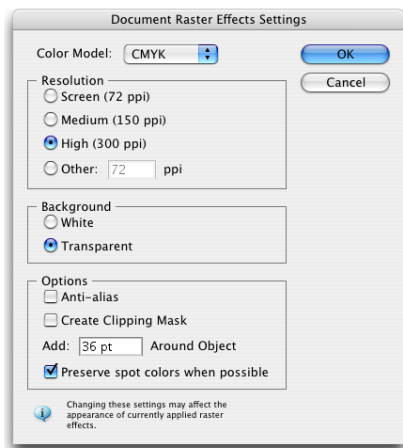
To access the Raster/Vector Balance control, the Flattener options, the Line Art and Text Resolution, and the Gradient and Mesh Resolution options, choose File > Document Setup, and then choose Transparency from the pop-up menu. You can choose a built-in Flattener preset for the current document or click Custom to specify settings for a temporary preset. The Flattener uses the settings in this dialog box when exporting a file or copying objects to the Clipboard.



Transparency panel in the Document Setup dialog box in Illustrator CS3

Document Raster Effects Settings dialog box

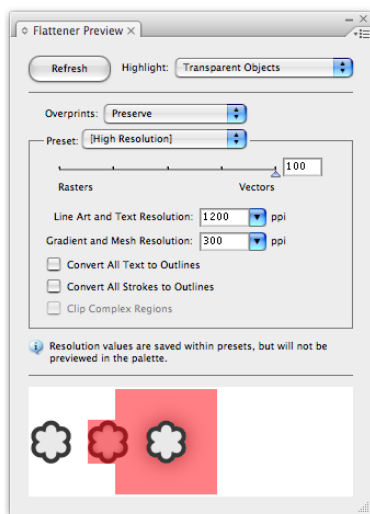
To access the Document Raster Effects Settings dialog box, choose **Effect > Document Raster Effects Settings**. Illustrator CS3 applies the resolution value in the Document Raster Effects Settings to all rasterized effects in the document (for example, drop shadow and feather). (In contrast, InDesign CS3 and Acrobat 8 Professional use the Gradient and Meshes Resolution setting.) Prior to printing the file, you can verify this setting in the Graphics pane of the Print dialog box.



Illustrator CS3 Raster Effects Settings dialog box in Illustrator CS

Flattener Preview panel

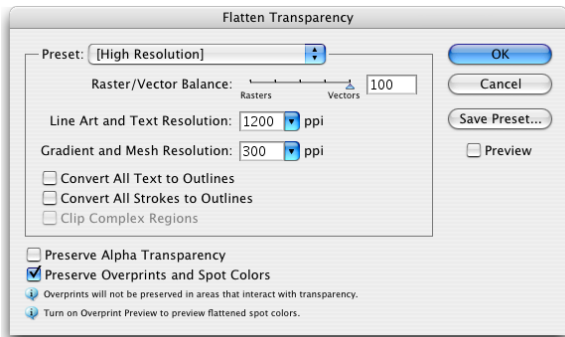
To access the Flattener Preview panel, choose **Window > Flattener Preview**. This feature, also available in InDesign CS3 and Acrobat 8 Professional, is the best method to find the areas of a document that the Flattener will process. (For more on Flattener settings, see “Best Practices” on page 28.)



The Flattener Preview panel in Illustrator CS3

Object Flattener dialog box

To access the Object Flattener dialog box, select the items you want to flatten, and then choose Object > Flatten Transparency. This feature lets you flatten individual objects while you edit the file. Flattening this way is not recommended: It's best to keep transparency live until just prior to printing, to keep files with transparency as device independent as possible. This feature is not available in InDesign CS3 or Acrobat 8 Professional.



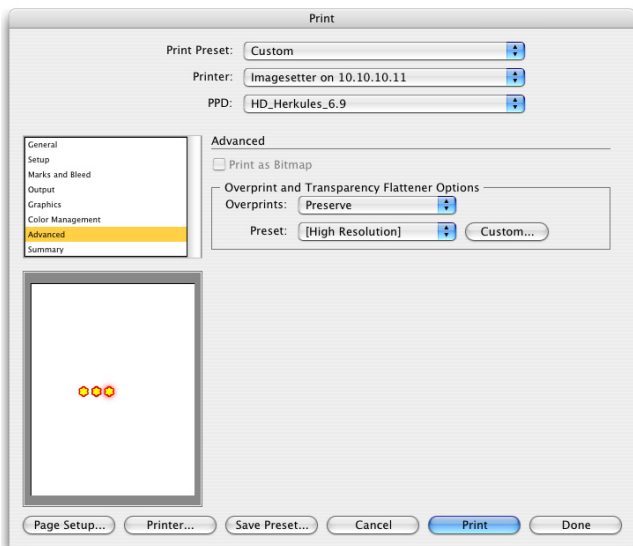
The Flatten Transparency dialog box in Illustrator CS3

Two options are unique to the Object Flattener's Flatten Transparency dialog box (and unavailable in the Flattener Preset Settings dialog box): Preserve Alpha Transparency and Preserve Overprints and Spot Colors

Print dialog box

The Transparency Flattener settings in the Print dialog box are located in its Advanced panel. To access the Advanced panel:

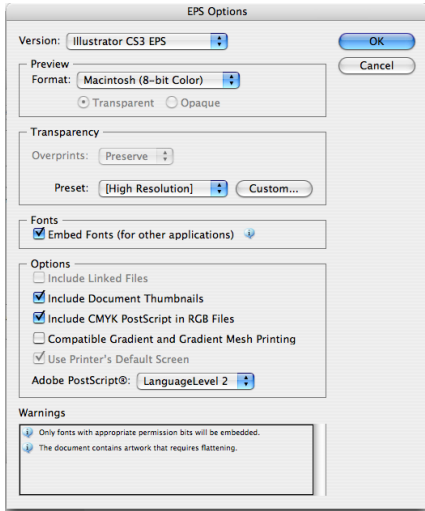
- 1 Choose File > Print.
- 2 Click the Advanced item in the list on the left of the Print dialog box.
- 3 In the Overprint and Transparency Flattener Options section, choose a Flattener preset (or click Custom to specify settings for a temporary preset).



The Print dialog box in Illustrator CS3 showing Advanced panel options

Save As dialog box

To access the Save As dialog box, choose File > Save As. Select a file format, and then click Save. If the format you are saving to requires flattening, use the Transparency section in this dialog box to select a Flattener preset (or click Custom to specify settings for a temporary preset), and then choose how you would like overprints processed during the saving process. The location of the Transparency Flattening settings in the Save As dialog box depends on the file format that you are saving to; the settings may be in the Options dialog box or in an Advanced section of the dialog box.



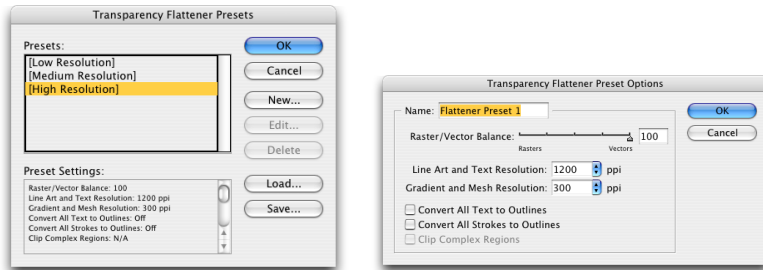
The Save As dialog box in Illustrator CS3 with Transparency section

Flattening Controls in InDesign CS3

This topic describes the transparency controls and features in InDesign CS3—menus, dialog boxes, preferences, and panels. For more information on InDesign CS3 and its features, see InDesign CS3 online Help.

Transparency Flattener Presets dialog box

To access the Transparency Flattener Presets dialog box, choose **Edit > Transparency Flattener Presets**. This dialog box provides access to defined Flattener presets. The built-in presets are not editable, but you can use them as the basis for customizing and modifying presets (select a preset and click **New** or **Edit**). Use the Flattener Presets dialog box to import Flattener presets created by customers or export your own presets for distribution. The presets you create here will be available when you print or save a file to a format that needs to be flattened.



InDesign CS3 Transparency Flattener Presets (left) and Transparency Flattener Preset Options dialog boxes (right)

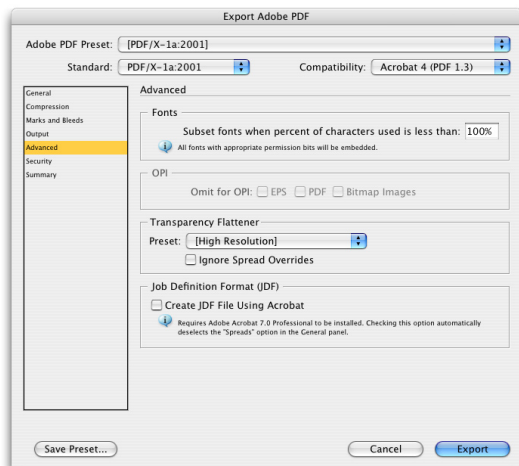
PDF 1.3 Export

Because the PDF 1.3 format doesn't support live transparency, your file may need to be flattened.

To choose a Flattener preset for exporting a PDF file:

- 1 Choose **File > Export**.
 - 2 For **Save as Type** (Windows) or **Format** (Mac OS), choose **Adobe PDF**. Type a filename, choose a location for the file, and click **Save** to go to the **Export Adobe PDF** dialog box.
- When the **Export Adobe PDF** dialog box appears, it displays the **General** panel (you can select the **General** panel in the list on the left of the **Export Adobe PDF** dialog box).
- 3 In the **Options** section, set the **Compatibility** to **Acrobat 4 (PDF 1.3)**.
 - 4 On the left side of the **PDF Export** dialog box, click **Advanced**.
 - 5 In the **Transparency Flattener** section of the **Advanced** panel, choose the Flattener preset you want to use.

If this section is grayed out, make sure that you have chosen the **Acrobat 4 (PDF 1.3)** setting in the **General** panel. The PDF 1.4, 1.5, 1.6, and 1.7 formats support live transparency, so no flattening occurs when exporting to these formats.



InDesign CS3 Export Adobe PDF dialog box: Advanced panel with Transparency Flattener options

EPS Export

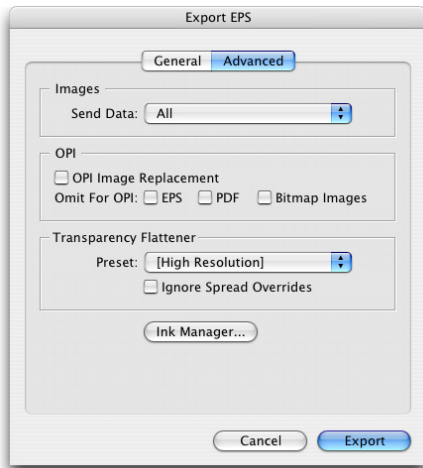
Because the EPS format doesn't support live transparency, your file may need to be flattened.

To choose a Flattener preset for exporting an EPS file:

- 1 Choose File > Export.
- 2 For Save as Type (Windows) or Format (Mac OS), choose EPS. Type a filename, choose a location for the file, and click Save to go to the Export EPS dialog box.

The Export EPS dialog box appears and displays the General panel (you can select the General panel at the top of the Export EPS dialog box).

- 3 Click the Advanced tab at the top of dialog box to go to the Advanced Settings panel.
- 4 In the Transparency Flattener section, choose the Flattener Preset you want to use.



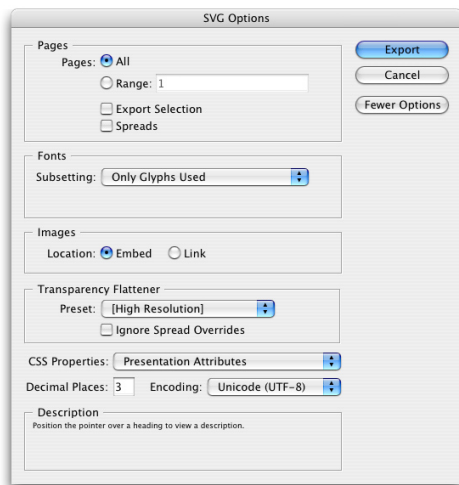
InDesign CS3 Export EPS dialog box

SVG and SVG Compressed Export

Because the SVG format doesn't support live transparency, your file may need to be flattened.

To choose a Flattener preset to for exporting a SVG file:

- 1 If desired, select an object to export. (You do not need to select anything to export a page or spread.)
- 2 Choose File > Export.
- 3 Specify a location and a filename. Be sure to include the .SVG extension.
- 4 For Save as Type (Windows) or Format (Mac OS), choose SVG or SVG Compressed, and click Save. The SVG Options dialog box appears.
- 5 If necessary, click the More Options button to access the Transparency Flattener section, and then choose the Flattener Preset you want to use.



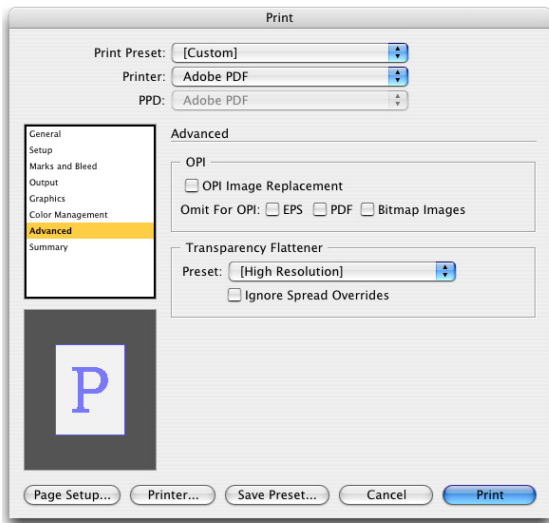
InDesign CS3 Export SVG dialog box

Print dialog box

You can also access Transparency Flattener settings in the Advanced panel of the Print dialog box, for use when printing your InDesign documents.

To access Transparency Flattener settings for printing:

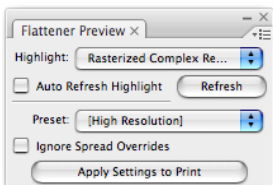
- 1 Choose File > Print.
- 2 Click the Advanced item in the list on the left of the Print dialog box.
- 3 Choose a Flattener preset in the Transparency Flattener section.



InDesign CS3 Advanced panel of the Print dialog box

Flattener Preview panel

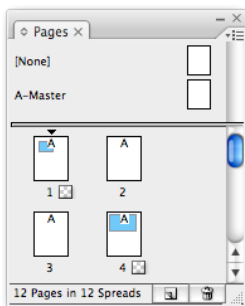
To access the Flattener Preview panel, choose Window > Output > Flattener Preview. This feature, also available in Illustrator CS3 and Acrobat 8 Professional, is the best way to find areas of a document that the Flattener will process. (For more on Flattener settings, see “Best Practices” on page 28.)



InDesign CS3 Flattener Preview panel

Detecting transparency on a spread in InDesign CS3

In addition to the Flattener Preview, you can detect pages that contain transparent items by looking at the Pages panel. Any page icon with a checkerboard pattern indicates that its spread contains one or more transparent items. Use the Flattener Preview option to determine which items on the spread contain transparency.



Spread containing transparency in InDesign CS3: Checkerboard pattern for page or spread icon indicates at least one object on page or spread uses transparency.

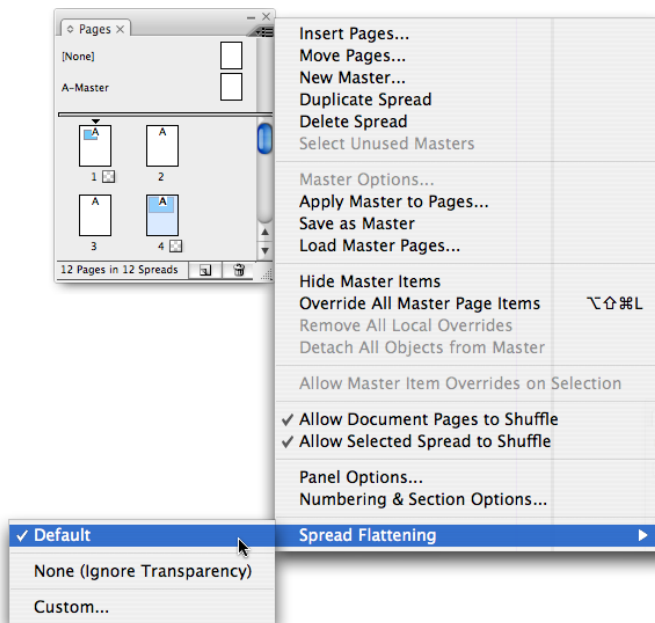
Overriding spread flattening

You may want to flatten one or more spreads in a document using a different style than for the rest of the document. Customizing a flattener setting for a specific spread lets you reduce flattening time and memory requirements without affecting the quality of other spreads. For example, if a placed Illustrator graphic contains a very complex piece of transparent artwork, you may want to flatten it with a different Raster/Vector Balance setting than the remainder of the pages in the document.

To apply a custom flattener setting and override the spread flattening, you use the Pages panel. Any flattening overrides you apply can be turned off temporarily when you print or export a document by deselecting the Ignore Spread Overrides option on the Advanced panel of the Print and Export dialog boxes.

To override spread flattening:

- 1 Select the spread for which you want to customize flattening.
- 2 From the Pages panel menu, choose Spread Flattening, and then choose an option:
 - **Default** to use the document flattening preset for this spread.
 - **None (Ignore Transparency)** to ignore transparency for the spread.
 - **Custom** to open the Custom Spread Flattener Settings dialog box to specify the Flattener settings you want used for the spread.



Using the Pages panel in InDesign CS3 to apply a custom spread flattening setting

Flattening Controls in Acrobat 8 Professional

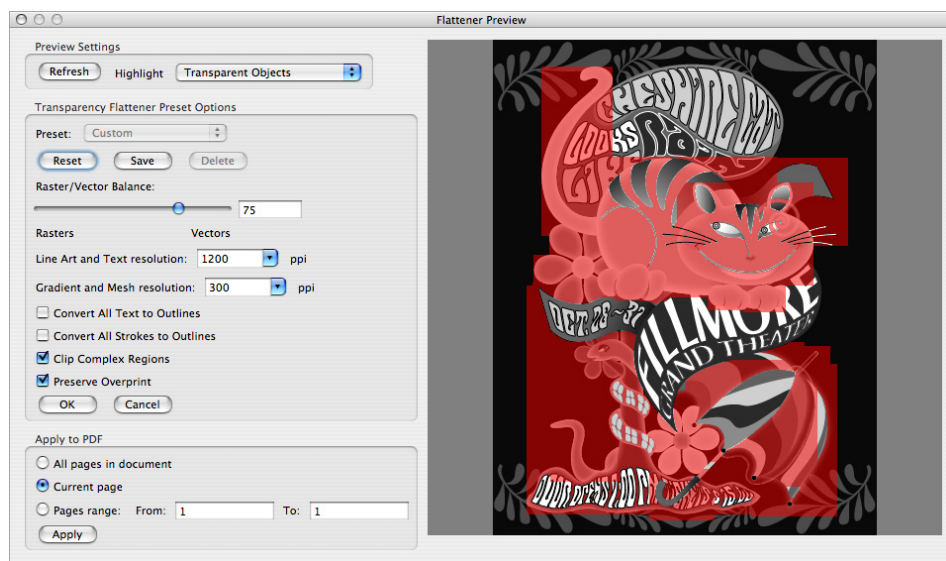
This topic describes the transparency controls and features in Acrobat 8 Professional—menus, dialog boxes, preferences, and panels. Acrobat 8 Professional supports PDF formats (PDF 1.4 and later) that contain live transparency created by exporting the file from Illustrator 9 and later, and InDesign 2 and later.

For more on Acrobat 8 Professional and its features, see Acrobat 8 Professional online Help.

Flattener Preview dialog box

To access the Flattener Preview dialog box, choose Advanced > Print Production > Transparency Flattening; or click the Transparency Flattening icon on the Print Production toolbar. Use the Flattener Preview dialog box to find areas of a document that the Flattener will process, preview the affect on color separations, and apply flattening to individual pages in a PDF document

(For information on using the Flattener Preview, see the “Flattener settings and Flattener Preview” on page 15.)



Acrobat 8 Professional Flattener Preview dialog box

Unlike when you print or export, which flattens only the data sent to the output device or file, flattening in the Flattener Preview flattens the contents of the PDF file. You can flatten your entire document or selected pages.

To view how flattening affects your color separations:

- 1 Create and open a *copy* of your PDF file to prevent accidentally overwriting your original file.
- 2 Choose Advanced > Print Production > Transparency Flattening. Configure the flattening settings as desired.
- 3 In the Apply to PDF section of the dialog box, select the pages to which flattening will be applied: all pages in the document, the current page, or a specified page range.
- 4 Click Apply to apply the settings.
- 5 Choose Advanced> Print Production> Output Preview to display the Output Preview dialog box. View the separation plates to ensure that the desired results were achieved.

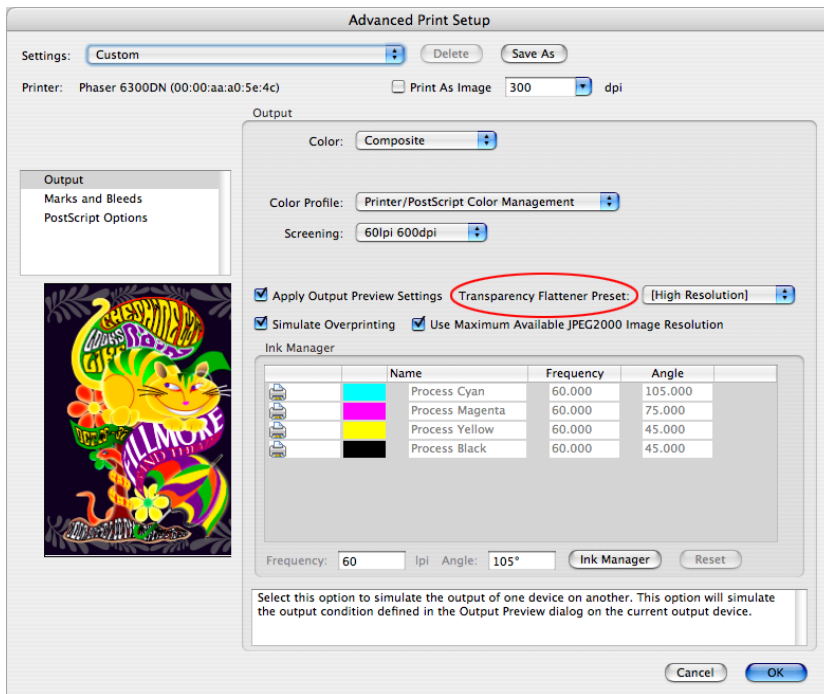
Note: If the PDF file contained spot colors, which the Flattener converted to process, the spot color names may appear in the Output Preview dialog box color list, even though the spot color is no longer being used in the file. To view a list of colors currently in use, save, close, and then reopen the document.

Print dialog box

The Transparency Flattener settings in the Print dialog box are located in its Advanced dialog box. Use this dialog box to choose a flattener preset when printing PDF files that contain live transparency.

To select a Transparency Flattener setting for printing:

- 1 Choose File > Print.
- 2 Click the Advanced button.
- 3 Select Output in the left pane of the dialog box; on the right side of the menu, choose a preset from the Transparency Flattener Preset pop-up menu.



Acrobat 8 Professional Advanced Print Setup dialog box

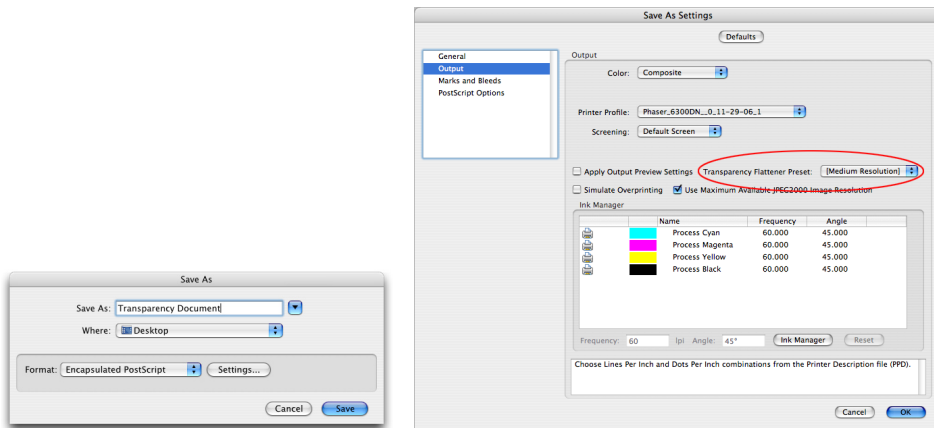
Save as PostScript or Encapsulated PostScript

Acrobat 8 Professional lets you save (export) a PDF file in various formats including Encapsulated PostScript (EPS). Because PostScript (including EPS) doesn't support live transparency, your file must be flattened if it contains transparency.

To choose a Flattener preset when exporting an EPS file:

- 1 Choose File > Save As.
- 2 For Save as Type (Windows) or Format (Mac OS), choose Encapsulated PostScript.
- 3 Click Settings. The Save As Settings dialog box appears.
- 4 In the Output pane, choose a Transparency Flattener Preset from the pop-up menu on the right.
- 5 When you have configured the settings, click OK to return to the Save As dialog box.

6 In the Save As dialog box, name the file, choose where to save it, and click OK.



Acrobat 8 Professional Save As (left) and Save As Settings (right) dialog box

Troubleshooting

This section describes how to minimize or prevent problems in standard print production workflows. Each problem has corresponding descriptions and solutions.

Tips for minimizing print production problems

- Install and use the latest Adobe software updates.
(<http://www.adobe.com/support/downloads/main.html>)
- Install and use the latest RIP software updates.
- Install and use the latest PPDs/printer drivers.
- Dedicate sufficient RAM to all applications.
- Visit the Adobe Print Resource Center. The Print Resource Center provides easy access to the latest tools and documentation from Adobe.
(<http://studio.adobe.com/us/print/main.jsp>)
- Read the ReadMe.pdf files that accompany the installers for additional known issues, resolved issues, and production and troubleshooting tips.
- Ask your customers to provide you with information about the transparency they used in a job. Additionally, if your customers must do their own flattening, provide them with appropriate Flatteners presets for your output conditions.
- Pay attention to the stacking order of objects. Wherever possible, place text and line art elements above all nearby sources of transparency to minimize the possibility that the Flatteners will process them. You can minimize this possibility by placing such elements on their own layer above all layers containing sources of transparency.

Transparency-related issues

Some transparency interactions currently have no workarounds for optimal printing. Future versions of Adobe applications will likely address some of these interactions. Until then, however, be alert for the following elements when they are mixed with transparency:

Preseparated content (Photoshop DCS files) InDesign CS3 can extract high-resolution plate data from placed Photoshop DCS files, which can be flattened and output. This capability requires that the DCS files not contain any vector data other than a clipping path. DCS files from other applications should not be involved in transparency interactions.

Duotone, tritone, or quadtone images place-linked into legacy Illustrator files While Illustrator CS2 and later handles these files properly, earlier versions of Illustrator do not.

Low resolution OPI images Replace all low-resolution images that will be flattened with high-resolution versions. Remember, “fatten before you flatten.”

Planning for transparency

The degree to which the effects of flattening affect your work often depends on whether the flattened results are appropriate for the next step of your workflow.

For instance, you cannot change type that gets converted to outlines with a PDF touch-up tool. If a file is to be immediately color separated for printed output, and the Flatteners was correctly set, this issue is unlikely to occur. At other points in the workflow, however, it may cause a problem. Similarly, you may not be able to map one spot color to another color after flattening, but if the next workflow step is trapping, you may not need to map colors.

The goal of quality print output is to maximize the value of transparency and minimize the effects of the transformation to a flattened file.

Treat flattening like preseparated content

Think about workflows involving flattened art in the same way as those that involve preseparated content. With preseparated files, you can make corrections only by going back to a composite format. You cannot convert a spot color to process, fix a trap, change image resolution, or replace an image after the separations are made. Similarly, flattening binds artwork into a representation that precludes making certain changes unless you return to the original version.

For similar reasons, you should use file formats that preserve transparency without flattening—or those file formats that can be reflattened—whenever possible; for a list of such file formats, see “Live transparency” on page 4.

Known issues

You are unlikely to encounter significant problems if you follow the recommendations in this guide. However, if a file requires special attention, you may find a solution here.

Issue: Printing transparent text sometimes results in a slight fattening of text on output.

Relevant product

Illustrator, InDesign, and Acrobat

Description

Slight fattening of text occurs where it interacts with transparent backgrounds, such as gradients, placed images, drop shadows, glow effects, and so on. The problem is most visible when using small text, font styles with slender stems and serifs, or printing to a low-resolution device; and less visible at resolutions higher than 1200 dpi.

Solution

The flattener technology built into Illustrator CS3, InDesign CS3, and Acrobat 8 Professional fix this problem. The flattener does not convert the affected text into outlines. Instead, the flattener converts the transparent artwork that interacts with the text into very small regions of “constant fill colors,” which the PostScript RIP software can easily process.

Issue: White lines appear when object flattening is performed on spot color gradients.

Relevant product

Illustrator

Description

If you have a spot color defined as a start or stop color of a gradient, flattening the gradient by using Object > Flatten Transparency command with the Raster/Vector Balance slider set to 0 (full raster) causes the appearance of thin white lines.

Solution

This issue has been fixed in Adobe RIPs that use versions of CPSI newer than 3011.106. When using earlier versions of the RIP, avoid using the Object Flattener, and flatten objects only by using the printing, Save as EPS, or Save as PDF 1.3 output options. Another workaround is to set the Raster/Vector slider to a value other than 0 (all raster).

Issue: White lines appear in the preview of object flattened images that have been rotated or sheared.

Relevant product

Illustrator

Description

If placed (linked or embedded) transparent images are rotated or sheared, white dotted lines may appear if you flattened the image using the Object > Flatten Transparency command. The lines are more noticeable with Overprint Preview turned on. The lines do not appear when you zoom in at percentages greater than 300%. Also, the problem does not occur when the Print/PDF/EPS Flattener is used.

Solution

This is a preview problem and does not occur when you print the image. Try flattening with Preserve Alpha Transparency turned on. Also, try flattening the image with a Raster/Vector Balance setting greater than 20.

Issue: Artifacts appear in a background image that has no transparency effects.

Relevant product

Illustrator, InDesign

Description

Artifacts may appear in a background image that has no transparency effects, when artwork or text with transparency are placed on top of the background image and flattened. The artifact appears because flattening included only part of the background image.

Solution

Include the entire image in the flattening by selecting the background image and make it 99% transparent. The visual appearance of the image won't be affected.

Issue: The DSC comment “%%DocumentProcessColors:” found in PostScript and EPS files that Illustrator generates always specifies that content will appear on all four process plates when a file is flattened with the Raster/Vector Balance slider set to 0.

Relevant product

Illustrator

Description

When the Flattener flattens a file using a Raster/Vector Balance setting of 0 (all raster) and that file contains a transparent object that uses less than all process colors, the resulting PostScript or EPS file's “%%DocumentProcessColors:” DSC comment will always indicate that all of the process colors are used. If you save that file as an EPS and place it into an application, the application will consider that all process colors are used in the EPS file. This may cause blank plates to print.

Solution

Set the Raster/Vector Balance setting to one that doesn't cause objects to be rasterized. It may also be possible to avoid this issue by using the command Object > Flatten Transparency to flatten individual objects prior to saving as an EPS.

Issue: The Flattener preview is not always correct.

Relevant product

Illustrator

Description

The Flattener preview may not correctly show some text that gets converted to outlines or some areas that get rasterized.

Some native objects may be expanded upstream or downstream of the Flattener preview, and the Flattener has no way of detecting these native images. For example, Illustrator type with a certain style applied gets outlined before being sent to the Flattener.

Solution

There is no workaround. This is a preview issue only. It is not a problem that causes improper printed output. It only relates to previewing rasterized artwork, outlined text, or expanded patterns that occur ahead of the flattening process.

Note that the following commands, effects, or applied graphic styles in Illustrator can rasterize artwork, expand patterns, or outline text: Rasterize effect, Crystallize effect, Pointillize effect, Transmogriker graphic style, Dropped Sherbet Type graphic style, and text objects modified with the Envelope Distort command.

**Issue: Live transparency in an exported PDF 1.5 file appears solid when processed by
Brisque 4.1.**

Relevant products

InDesign CS and Creo Brisque 4.1

Description

When you process a PDF 1.5 file that contains live transparency on a Brisque 4.1, the appearance of the transparency is not maintained and the image appears solid.

Solution

Export the file as PDF 1.4. The Brisque 4.1 can flatten a PDF 1.4 file and maintain the transparent appearance.

**Issue: Users of Adobe certified RIPs that use PDF2PS converter version 3015.101 or
3015.102 may encounter failures with placed Illustrator transparency.**

Relevant products

Illustrator, InDesign, Creo Brisque 5 and PS/M 8, and older versions of Heidelberg Meta Dimensions and Delta.

Solution

Output PostScript to avoid the use of this specific version of the RIP's PDF2PS converter. Error does not occur with RIPs that use version 3015.103 of the PDF2PS converter.

**Issue: Spot channels in raster images preview in black when processing flattened PDF 1.3
on Brisque 4.0 and 4.1.**

Relevant products

InDesign and Creo Brisque 4.0 and 4.1

Description

This issue includes .DCS, .PSD, and TIFF images included in the PDF 1.3 file. This is a preview issue only. The spot channel does remain as a spot plate (as long as the spots are set to be maintained on output). If the spot is used anywhere else on the page, or if there is no transparency on the page, it will preview correctly. PDF files that are generated by Distiller will preview with the same results. Note, this issue does not apply to Brisque 5.x.

Solution

Possible workarounds include:

- Export the file as PDF 1.4.
- Add an element on the page that uses that same spot color as the raster image.
- Use the Creo utility PDF2PS before sending to Brisque.
- Print as composite.
- Edit the preview color of the spot plate after it has been RIPped by the Creo application PressTouch.

Issue: Text in oblique (not italic) fonts in a PDF 1.4 with live transparency, which is processed by the Prinergy 2.1.x transparency flattener, is skewed at the wrong angle.

Relevant products

InDesign and Creo Prinergy 2.1.x

Description

Oblique fonts have oblique angles that are achieved in the RIP as a transformation of the non-oblique character outlines. The In-RIP Flattener in Prinergy 2.1.x may incorrectly process the transformation instruction that creates the oblique angle of glyphs. The incorrect angles will be particularly noticeable if the Flattener processes certain glyphs but not adjacent ones. Another noticeable instance is when the glyphs have strokes applied that will be rendered as outlines and do not match the fill that is rendered as a font. This issue does not apply to Prinergy 2.2 or later.

Solution

Flatten in InDesign by creating a PDF 1.3 for submission to the Prinergy system, or convert all oblique text to outlines in InDesign prior to generating the PDF 1.4.

Issue: White stitching line appears in CMYK separations when a file with a spot color and transparency is processed at high resolution on the Heidelberg Delta v8 RIP.

Relevant product

InDesign CS2, Heidelberg Delta RIP version 8.

Description

InDesign CS2 files that contain spot-colored native artwork which interacts with one or more process colors and transparency may result in white stitching lines when saved to PostScript and processed by Heidelberg Delta version 8. Affected PostScript files include those saved using the In-RIP Separations or on host Separations settings in the Output pane of the Print Dialog box. Exporting PDF 1.3 from InDesign, opening the resulting PDF in Acrobat 6 or later, and then saving to PostScript (Separations/In-RIP Separations) also causes this problem when processed by the Delta.

Solution

No known workaround.

Issue: When exporting to flattened PDF from InDesign CS2, a pixel shift will occur in rasters intersecting transparency where half of a raster image is down-sampled and the other is not.

Relevant product

InDesign CS2

Description

When exporting to PDF 1.3 from InDesign, raster images interacting with transparency will shift by one pixel if part of the image is down-sampled and part is not. Affected sources of rasters interacting with transparency on the page in InDesign include placed EPS, TIFF, and PDF files.

Solution

Turn off downsampling in InDesign's PDF export settings; Alter the downsampling destination resolution in the PDF export settings to match that of the flattener's; Alter the flattener resolution (adjust the flattener preset) to match that of the PDF downsampling destination resolution; Print to PostScript and Distill.

Issue: White seams appear on RIP output when placed raster images that have spot channels involved (Photoshop files) in transparency are exported to PDF 1.3.

Relevant product

InDesign

Description

White seams and gaps appear on the output where the spot channel meets the CMYK channels in some spots. The white seams and gaps are a single device pixel wide and are not visible when you open the PDF in Acrobat. This behavior does not occur when printing PostScript, and it does not occur if the image is not involved in transparency.

Solution

The best solution is to generate a PostScript file and create the PDF file by using Acrobat Distiller. You can manually trap the spot channel content in the image by using the Grow function in Photoshop. In some cases, but not all, turning off compression and downsampling eliminates the problem.

Issue: Transparent gradients that mark only two process plates appear on the wrong plates when you export to PDF 1.4 and RIP with Adobe Configurable PostScript Interpreter (Adobe CPSI) versions 3015.102 or 3016.101.

Relevant products

InDesign and Adobe CPSI RIP versions 3015.102 or 3016.101

Description

Colors in a gradient composed of only two process colors with transparency applied may mark the wrong plates when you export to PDF 1.4 and RIP on a device that uses the Adobe CPSI RIP versions 3015.102 and 3016.101. This problem does not occur in version 3016.102.

Solution

Contact your OEM and see if a new version of the RIP is available.

Issue: Stitching can occur when printing placed EPS or PDF files that contain spot colors and the spot color definition of a placed graphic differs from the definition in the host document.

Relevant product

InDesign

Description

If transparency interacts with the image, stitching can occur when printing a placed EPS or PDF file that contains a spot color with the same name but a different color definition as a swatch in the InDesign file.

The portion that is not involved in transparency uses the placed graphic's spot color definition. The portion that is involved in transparency uses the document's spot color definition. This issue only occurs with composite PostScript.

Solution

Make sure the spot color definitions in the placed graphics and the document match if you use a composite workflow.

Issue: Exported PDF with OpenType® fonts involved in transparency fails to RIP with Adobe CPSI 3011.106.

Relevant products

InDesign, Adobe CPSI 3011.106

Description

This issue is specific to RIPs using Adobe CPSI version 3011.106. Check with your RIP vendor to see if an update is available.

Solution

If possible, change the layering order of the objects so that the text is on the topmost level. To change the layering order, select the text box, and choose Arrange > Bring to front.

Issue: In some cases, thin black or white lines appear where flattened objects abut when processed on the Creo Brisque.

Relevant products

InDesign and Creo Brisque

Description

This issue occurs when a large, radial-gradient filled rectangle is used for the page background and transparent text objects with drop shadows are placed on top of it.

Solution

With files that contain transparent text on top of images or vignettes, or text on top of transparent images, Creo does not recommend that you save files in Adobe applications with the Create Outlines option chosen because hairlines sometimes appear around the transparent text after you RIP the file.

If, however, you select the Create Outlines option, you can prevent hairlines from appearing by RIPping the file at 600 dpi and specifying whole number values for CT and LW (for example, LW 2400 and CT 600 [or 400]).

Issue: PDF 1.5 file exported from InDesign and processed on Agfa Apogee Series 2 fails to print.

Relevant products

InDesign and Agfa Apogee Series 2

Solution

Print to PostScript or export the document as a PDF 1.3 or 1.4 file, and then process at the RIP. This issue has been resolved in Agfa Apogee X.

Issue: Brisque is unable to recognize live transparency in PDF 1.5.

Relevant products

InDesign and Creo Brisque

Description

When processing a PDF 1.5 file containing live (unflattened) transparency, the transparent areas appear solid.

Solution

Export the file as PDF 1.4 to have the Brisque flatten the transparency. Print to PostScript or export as PDF 1.3 to control the flattening yourself.

Issue: Black lines appear over text with a drop shadow when flattened using medium flattener style.

Relevant products

InDesign, Heidelberg Delta 7.5, and Meta Dimensions 3.0 RIP

Description

Black lines may appear over text with a drop shadow when flattened using medium resolution flattener style when processing the file on Heidelberg Delta 7.5 or Meta Dimensions 3.0 RIP.

Solution

Use the high-resolution flattener style.

Issue: Image-to-image traps cause unexpected results on flattened output when you process files on Rampage RIP.

Relevant products

InDesign and Rampage RIP

Description

When you apply a drop shadow to knockout text, the Flattener rasterizes the text (thus converting it into an image) and the Rampage RIP applies its image-to-image trapping rule to the text. When the RIP traps the text, it is choked and becomes skinny.

Solution

The solution requires that image-to-image trapping be disabled. Set Auto-trap Contone to Spread or Knockout. The Knockout setting disables trapping to contones. If the design will let you, bringing the text to the front may help to resolve the issue.

Issue: When you omit low-resolution OPI images from an unflattened PDF file Prinergy does not properly process the PDF file's OPI comments.

Relevant products

InDesign and Creo Prinergy

Description

Even though the OPI comments are written correctly in the unflattened PDF file, Prinergy flattens the file before it processes the OPI comments.

Solution

Do not use an "Omit for OPI" workflow for images involved with transparency (do not choose any of the Omit for OPI options when exporting PDF from InDesign). In other words, make sure that the low-resolution images are included in the file.

Glossary

A

Atomic regions are the smallest intersections of one or more objects involved in transparency, or zones, into which the Transparency Flattener divides the page being flattened. Individual vector, text, or image objects may be divided among several atomic regions.

Automatic Picture Replacement (APR) is the Creo (Scitex) mechanism for using low-resolution proxy images in a page layout application that are then replaced with their high-resolution counterparts at the RIP. Do not use APR proxy images if they interact with transparency, or the proxy image will be processed into the final output by the Transparency Flattener, preventing high-resolution substitution at the RIP. See Open Prepress Interface (OPI).

B

Blend is an Illustrator feature that lets you create a series of intermediate objects and colors among two or more selected objects.

Blending mode is a specification for the ways that the colors of objects blend with the colors of underlying objects. Specifying any blending mode other than Normal (or applying opacity to the Normal blending mode) for an object causes it to be considered a source of transparency and requires it to be processed by the Transparency Flattener.

Transparency Blend Space is used when blending the colors of transparent objects. The colors of the transparent objects are converted to a common color space using either the CMYK or RGB color profile for the document. This blending space enables objects of multiple color spaces to blend when interacting transparently.

C

Clip is to use a vector object as a mask or window for other objects. Any portions of the clipped objects that lie outside the clipping object will be hidden. Because the clipping shape is a vector object, its edge will be rendered at the resolution of the output device.

Clip Complex Regions is a Transparency Flattener option that ensures the boundaries between vector artwork and rasterized artwork fall along object paths. By selecting this option, you can reduce stitching artifacts that result when part of an object is rasterized while another part of the object remains in vector form.

Color model is the dimensional coordinate system used to numerically describe colors. Some models include RGB, HSB, CMYK, and L*a*b*.

Color space is a variant of a color model and has a specific gamut (range) of colors. For example, within the RGB color model are a number of color spaces: Adobe RGB, sRGB, and Apple RGB. While each of these color spaces defines color using the same three axes (R, G, and B), their gamuts are different.

Color stitching is the visible color transition that appears between objects whose coloring would otherwise be identical. It most commonly occurs when the Flattener rasterizes only a portion of a vector object.

Complexity region is an area that is rasterized because of a complex transparency interaction. Complexity regions are typically made up of a large number of objects that interact with transparency. Flattening them would be time- or memory-intensive. Flattening a complexity region involves rasterizing all vector objects, images, and text inside the region using the Line Art and Text Resolution. Note that the Raster/Vector setting affects complexity regions. For example, it's possible that you could have a rasterized complexity region when the Raster/Vector balance is set to 20, but not when the Raster/Vector setting is set to 80.

Convert All Strokes to Outlines is a Transparency Flattener option that converts all strokes to simple filled paths. This option ensures that the width of strokes stays consistent during flattening. Note that by choosing this option, you may cause thin strokes to appear slightly thicker than they otherwise would.

Convert All Text to Outlines is a Transparency Flattener option that converts all type objects to outlines and discards all type glyph information. This option ensures that the width of text stays consistent during flattening. Note that by enabling this option, you may cause small text to appear slightly thicker than it otherwise would.

CT/LW (Continuous Tone/Line Work) are the two file formats used by Creo (Scitex) Brisque and PS/M RIPs. Other dual resolution RIPs use similar file types.

D

Document color mode is an Illustrator CS2 setting that specifies the color space for a document. Illustrator CS2 does not support using elements in multiple color spaces (CMYK and RGB) in a document. In Illustrator CS2, the Transparency Flattener works in this color space.

Document Raster Effects settings are the settings Illustrator uses whenever you apply a raster-based effect to an object. The raster effects settings can have a large impact on the resulting artwork; therefore, it's important to check the Document Raster Effects Settings dialog box before you export or output a document that contains raster effects.

Drop shadow is a live creative effect that you can apply to objects or type in Illustrator, InDesign, or Photoshop. Applying a drop shadow to an object makes it a source of transparency and requires the Transparency Flattener to process it.

Dual resolution RIP is a RIP in which each page is created in an intermediate, unscreened rasterized format consisting of two files—a relatively high-resolution file (the Line Work) that contains geometric shapes and text and a lower-resolution file (the Continuous Tone) that contains the images.

F

Fatten is the process of replacing low-resolution or omitted image data with high resolution image data. See OPI and APR.

Feather is a live creative effect that you can apply to objects in Illustrator or InDesign. Applying a feather to an object makes it a source of transparency and requires the Transparency Flattener to process it.

Flattener Presets are similar to paragraph styles for text; however, instead of containing text formatting, a Flattener Preset contains the settings the Flattener will use when flattening transparency. Custom Flattener Presets can be created and saved for reuse. In addition, a Flattener Preset created by InDesign can be used by Illustrator and vice versa. Both applications include three built-in presets that cannot be modified or deleted: Low Resolution, Medium Resolution, and High Resolution.

Flattener Preview in Illustrator, InDesign, and Acrobat 8 Professional can be used to highlight objects that are a source of transparency or that will be affected by the flattening process.

Flattener is also known as Transparency Flattener. See Transparency Flattener.

G

Glyph is a specific form of a character. Certain characters may be represented by a number of glyphs. For example, in certain fonts, the capital letter A is available in several forms, such as swash and small caps.

Gradient and Mesh Resolution is the Flattener setting that determines the resolution applied to any gradient meshes and gradients that are involved in transparency. In addition, InDesign CS2 applies this resolution to all InDesign drop shadows and feathered edges.

Gradient mesh is a single, multicolored Illustrator object on which colors can flow in different directions, and smoothly transition from one point to another, to simulate watercolor style effects.

Gradient is an Illustrator or InDesign object fill or stroke containing a graduated blend of colors.

I

Ink Manager is the InDesign component that lets the user control the output of each color in a document. You can use the Ink Manager to convert spot colors to process or to cause one spot color to be output with another color. Converting spot colors of placed graphics to process can cause unintended results if the Transparency Flattener processes those elements.

Interacts with transparency is a term applied to objects which themselves may not be transparent but will be affected by the Flattener during the flattening process.

L

Line Art and Text Resolution is a Flattener setting that determines the resolution applied to areas that need to be rasterized because they are too complex for the current Raster/Vector Balance setting. The Line Art and Text setting is intended primarily for vector objects, but in some cases, you can apply it to type or images. Typically, this resolution should be set to match the resolution of your output device.

Live effects are Illustrator operations found on the Effects menu that have specified properties, but they remain editable. You can apply an effect command to an object and then continue to modify the effect's options or remove the effect at any time by using the Appearance panel. The application of certain Illustrator effects, like drop shadow, feather, and glows, will make an object a source of transparency.

Live transparency refers to any transparent attributes that are specified but not yet executed (flattened). Keeping transparent attributes live lets their properties be changed at any time before output, or in the case of Illustrator, explicit flattening.

O

Object flattening is an Illustrator option that lets you flatten individual objects while you edit the file. Select the objects you want to flatten and choose Object > Flatten Transparency. Object flattening is not available in InDesign or Acrobat.

Opaque is the color attribute of an object that totally obscures any underlying objects. With the exception of overprint, the PostScript imaging model creates opaque objects.

Open Prepress Interface (OPI) is an industry-standard mechanism for you to use low-resolution proxy images in a page layout application that are replaced with their high-resolution counterparts by a RIP or by an OPI server. You must be careful not to use OPI proxy images if they interact with transparency, or the proxy image will be processed into the final output by the Transparency Flattener, preventing high-resolution substitution at the RIP. See Automatic Picture Replacement (APR).

Overprint is a color attribute that specifies that the colors (inks) of an object to which it is applied should not erase (knockout) other inks in underlying objects. Because the Transparency Flatteners in Adobe products may rely on overprint for proper rendering of the flattened output, it is important that viewing applications, as well as proofing and final output devices, implement and honor this attribute.

Overprint Preview is a display option in Illustrator, InDesign, and Acrobat 8 Professional that shows the effects of any object overprint attributes. Because the Transparency Flatteners in Adobe products may rely on overprint for proper rendering of the flattened output, it is important that you view flattened output in an application that provides this capability and that you enable it.

P

Pages panel is the InDesign panel that shows the document's pages and spreads. One feature of the Pages panel is that each page that contains any transparency is displayed with a distinctive checkerboard background, which gives you a quick visual confirmation of the pages that the Transparency Flattener will process.

Preserve Alpha Transparency is an Illustrator Object Transparency Flattener option that only takes into account the attribute of opacity. It does not include blending modes. After a user flattens artwork with this option chosen, alpha transparency remains, and the resulting artwork is suited for SVG and SWF web formats. All objects with blend modes other than Normal are flattened and the appearance of artwork is preserved. In general, you should not use this setting in the context of print workflows.

Preserve Overprints and Spot Colors is an Illustrator Object Transparency Flattener setting that is only applicable to explicit flattening by using Object > Flatten Transparency. This option produces the same effect as Preserve Overprints in the Advanced pane of the Print dialog box.

Process color is one of the four subtractive primary colors used in four-color process printing—Cyan, Magenta, Yellow, and Black.

Proxy image is a low-resolution placeholder image that you can use in page layouts in conjunction with OPI or APR systems. Be sure not to let proxy images interact with transparency or the low-resolution data will be processed into the final output by the Transparency Flattener.

R

Raster/Vector Balance is a Transparency Flattener setting that specifies the desired degree of rasterization. The higher the setting, the less rasterization is performed on the artwork. Select the highest setting to keep as much artwork as possible as vector data; select the lowest setting to rasterize all of the artwork.

S

Seam stitching is the appearance of visible artifacts (white or black lines displayed in the flattened image) or differences along the borders of atomic or complexity regions.

Separations Preview panel is a panel in Illustrator, InDesign, and Acrobat 8 Professional that dynamically shows color separations individually or in any combination along with a dynamic densitometer that measures and displays separation values at the current cursor location on the page.

Simulate Overprint is an output option in various print and export dialog boxes in Illustrator, InDesign, and Acrobat 8 Professional. If you choose this option, the Transparency Flattener will preprocess all overprint attributes and render them without reliance on overprinting. This option can be useful for creating proofs that will be viewed or printed on devices that do not have support for overprinting, but it is generally not advisable for final production output. Note that choosing this option converts spot colors to process in any affected area.

Source of transparency is any object that has one or more of the following characteristics: has an opacity less than 100%, has a non-Normal blending mode, has a drop shadow, or has a feather.

Spot color is a nonprocess color that you may use alone, with other spot colors, and with one or more process colors.

Stacking order is the front-to-back or top-to-bottom order of objects on a page, both within and between layers. Objects that are beneath transparent objects in stacking order may be unnecessarily and unfavorably affected during transparency flattening.

T

Transparency is an effect applied to an object that causes it to appear transparent. A transparent object lets objects that lie underneath it to show through.

Transparency Blend Space is an InDesign setting that controls if the Transparency Flattener uses CMYK or RGB color space in making its color calculations. To avoid unintended color shifts during flattening, it is important to properly set the Transparency Blend Space.

Transparency Flattener is the software component of Illustrator, InDesign, and Acrobat 8 Professional that processes objects with live transparency effects, along with objects with which they interact, and recreates their visual appearance by using opaque objects that can be rendered in the PostScript imaging model.

Transparency interaction is the relationship between a source of transparency and any other object that is a source of transparency, is overlapped by a source of transparency, or is very close to (usually within one point of) a source of transparency, and is beneath it in stacking order.